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I.

John Birkett Esq.

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with the Author's kind regards

MEDICAL SOCIETY OF LONDON
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CHANGE OF CLIMATE,

ETC.

MEDICAL SOCIETY OF LONDON
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CHANGE OF CLIMATE

CONSIDERED AS A REMEDY IN

DYSPEPTIC, PULMONARY, AND OTHER CHRONIC AFFECTIONS;

WITH AN ACCOUNT OF THE

MOST ELIGIBLE PLACES OF RESIDENCE FOR INVALIDS

IN

SPAIN, PORTUGAL, ALGERIA, ETC.,

AT DIFFERENT SEASONS OF THE YEAR;

AND

AN APPENDIX ON THE

MINERAL SPRINGS OF THE PYRENEES, VICHY, AND AIX LES BAINS.

BY

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"Qual piu diversa e nova
Cosa * * in qualche stranio clima."
PETRARCA, RIME.

LONDON:
JOHN CHURCHILL, PRINCES STREET, SOHO.
MDCCCLIII.

11288513

" Quæ sit hyems Veliæ, quod cœlum, Vala, Salerni,
Quorum hominum regio, et qualis via."

HORAT. EPIST. I. XV.

" By what means to shun
The inclement seasons, rain, ice, hail, and snow!
Which now the sky, with various face, begins
To show us * * * while the winds
Blow moist and keen, shattering the graceful locks
Of these fair-spreading trees; which bids us seek
Some better shroud, some better warmth to cherish
Our limbs benumm'd."

PARADISE LOST, b. x. 1062.

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PREFACE.

The purport of this book is sufficiently explained on the title-page. A prolonged professional engagement, as well as a subsequent residence in Italy, afforded me the opportunity, during upwards of five years, spent in different countries abroad, of studying the subject of Climate. The portions of the book which refer to foreign climates are the result of information acquired under these circumstances; and in the case of every place, of which a detailed account is given, the observations on which it is founded were made at the locality described. Much of the ground over which I travelled, possesses advantages for invalids but little known; and whilst offering facilities, in its climate, for their recovery, would impart a freshness and novelty to their wanderings. Amongst other things I have endeavoured to point out where the invalid should go as the seasons change;—what winds and quarters of towns are to be avoided;—and how most easily and pleasantly different changes of residence may be effected.

It would be no new thing to insist on the influence which Climate exerts upon the health; but the continually increasing facilities for travelling, and the locomotive spirit of the present age, invest the subject, every day, with a fresh interest.

I have given only an incidental notice of the Climates of England. This has arisen, not from a distrust of their remedial merits in some states of deranged health—and it is by no means always necessary that the change of climate should be sought out of our own country—but from the fact that they have already received attention from previous authors. At the same time, I was unwilling to extend the volume beyond its present limits.

Similar considerations have induced me to omit some notes, which I had prepared on the Climates of Italy and the South of France, through which I carefully and leisurely travelled.

With reference to Spain, whatever the imperfections of the book, some indulgence may be claimed for a first attempt to direct attention to its climate. I am not aware of the existence, in any language, of a work that professes to deal with the subject.

There is an humble merit even in the office of a pioneer. The rugged features of the Peninsula presented to the military pioneer more than his usual share of difficulties and obstructions. His representative, in a scientific point of view, is hardly more fortunate in that country. It is a curious fact that a Spanish bookseller rarely knows

what books are upon his shelves; and this, even when subjects of local interest are concerned. He will gravely meet the inquiry for a volume with "Quien sabe?" Who can tell? or, "Vamos á ver!" Let us see! or, "Vuelva V mañana por la mañana!" Will your Grace call again to-morrow? the doing of which will almost certainly involve a repetition of the invitation. How he gets a living this is not the place to inquire. Moreover, there is a comparative absence of materials for statistics; and when they do exist it is often most difficult to find them. So seldom, also, is it the custom to engage in scientific inquiries, that a foreigner, so occupied, will sometimes incur the risk of falling under the suspicion that his real object may be of a political nature.

I have, in subsequent pages, expressed my obligations to several of Her Majesty's Consuls in Spain, &c., for facilities which they were able to afford me, in gaining access to official sources of information. The members of my own Profession, also, were always most ready to show a courteous attention to a countryman of Sydenham—an author who may be found upon the shelves of almost every study.

I have endeavoured to guard against the use of mere assertion; the grounds upon which opinions have been formed are, in most instances, submitted to the judgment of the reader. The meteorological data of Cadiz, Malaga, and Valencia, were extracted from daily reports published during a series of years

in those cities. Many weeks of labour were expended in this operation, and in subsequent calculations; the results of which are expressed in a few lines only of figures.

The thermometer scales of Reaumur, and the centigrade, have been reduced into that of Fahrenheit; and French and Spanish measurements, unless when stated to the contrary, into those of England.

Among the mineral springs described in the Appendix, the baths of Vernet, in the eastern Pyrenees, seemed to me particularly worthy of notice. They differ, I believe, from all others. It will be seen that the season, at this place, has no limits; and the use of the sulphurous waters may be prolonged throughout the year. Physicians who have confidence in the value of a moderate temperature, steadily maintained, night and day, at the same point, as a means of treatment in pulmonary consumption, have here the opportunity, not readily attainable at home, of putting their views into practice. One of the hotels, which is also the bath establishment, is traversed in every part by pipes conveying the warm mineral water; and, as the supply is constant, and nature regulates the heat, a practical difficulty in most artificially warmed places is avoided.

36, *Albemarle Street*,
April, 1853.

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CHANGE OF CLIMATE

AS

A REMEDY IN CHRONIC DISEASE,

&c.

PART I.

ON CLIMATES IN GENERAL.

CHAPTER I.

Climate of Spain little known—Superior to that of Italy—Accessibility of Spain from England—Influence of change of climate on the health—Effects of certain winds—On what do the properties of climate depend?—Ozone—Tonic, relaxing, and irritant climates—Further effects of atmospheric causes on the health.

To say of this or that place in the neighbourhood of the Mediterranean, that it possesses the finest climate in the south of Europe, is a way of speaking, often used in books of travels, as well as in ordinary conversation. Opinions, to the same effect, only used with more authority, are to be found among authors who have dealt more particularly with the medical bearings of the subject of climate.

Now, in almost every instance, this fortunate pre-eminence is accorded to some part of Italy or

the south of France; occasionally perhaps to Malta or Greece. Italy, indeed, and fine climate are viewed, by general consent, as terms naturally suggestive the one of the other; so that the expression an "Italian sky," implies a concentration of all that is considered to be delightful in a climate.

In these awards of the palm of superiority it is curious to observe, how little notice has been taken of the Spanish peninsula. And yet this great country commands a vast extent of sea coast, and reaches much further south than any other portion of Europe; whilst it possesses, in the physical accidents of its surface, an infinite variety of those features which are known to impress peculiar characters upon climate.

Is this because its merits in a sanitary point of view have been already investigated and found wanting? or was its existence overlooked, when the superiority of one country over another was pronounced upon? or has the absence of sufficient data on which to base a trustworthy opinion, kept it out of the field of comparison?

If the latter query suggests the true explanation, it cannot be labour in vain, even to have done nothing more than glean a few scattered ears of information, in a field of inquiry so interesting to the physician and so full of promise to the invalid.

Comparing Spain with Italy, in point of advantages of climate, I think that reason, as well as such little experience as there is on the subject, would incline us to look very favourably on the claims of the former. First, its latitude, which, in

regard to the places of common resort, extends many degrees further south. The latitudes of Rome and Naples, for instance, are 41½° and 40½°, whilst that of Malaga is 36½°. Then the physical disposition of the two countries. The whole of the Mediterranean coast of Spain may be said to have a southerly aspect; whilst, as a general rule, walls of lofty mountains, running parallel to the sea, form a huge protective barrier on the north. Between these and the sea lie those strips of smiling country which occur at frequent intervals all along the coast, sheltered and basking in the sun, and producing a vegetation which, for force of development, seems to be singular in southern Europe.

It is far otherwise with the peninsular portion of Italy. Here the broad chain of the Apennines runs, not from east to west, but from north to south. The mountains thus not only afford no protection from the most trying quarter, but their snow-capped ridges approach so near to the sea throughout the greater part of their extent, that the warm and low lying districts experience a frequent and sudden oscillation between the land and sea winds. The characters of these are as opposite to each other as they can well be. The latter, coming from the heated sands of Africa, absorb vast quantities of moisture in their passage across the sea. These are the *sirocco*—warm, damp and relaxing. The former are dry, rare, cold and penetrating—these are the *tramontana*. It is well known how sudden are the transitions from one to the other.

As to the northern half of Italy, the country of Pied-

mont and Lombardy, it forms a vast flat valley, intersected by numerous rapid rivers and surrounded, north, south, and west, so completely by snowy mountains, Alps and Apennines, that the south winds during the winter as often bring hail, frost, and snow, as the north. Venice alone has claims to notice, as a place of residence for invalids during this season.

The *primâ facie* invitation then, which these considerations hold out for a proper investigation of the climate of southern Spain, is likely to have been disregarded only in consequence of some accidental circumstances. Among these may be mentioned the many and varied attractions which Italy has always possessed, to a degree beyond all other countries, and independently of climate, for the ordinary traveller, and its comparatively easier means of access under the old system of locomotion. The influence of these two causes in directing the choice of a continental residence for invalids can be readily understood.

Then, as regards Spain, there has been none but the most general information for the guidance of those who are in search of health. And the impressions—often quite unfounded—that so commonly prevailed as to the difficulty and danger of a residence in that country, caused it to be thought of as a fitting field for the adventurous and romantic, but not for the quiet peace-seeking valetudinarian.

But these disadvantages have been for some time past disappearing. Steam has brought the most southerly point of the Peninsula within a six or

seven days' voyage from England, and provided an easy communication between all the principal places along the extensive line of coast, both in Spain and Portugal, from Santander to Barcelona. Railways to the south of France, in course of rapid construction, will render Spain even more accessible than Italy, for there are no Alps to be crossed. At the same time, the attractive and truthful pages of Mr. Ford are dispelling the exaggerated notions of personal insecurity and of obstacles in the way of lodging and *cuisine;* and inducing many of our countrymen, as well as Americans, in increased numbers every year, to visit the most accessible parts of those delightful and little known regions.

Even invalids are beginning to show themselves in some localities. I met with several such. Some had fixed their abode for the winter in one of the many warmer localities, whilst others had preferred to ramble easily from town to town along the sunny coast. It was, in fact, very much owing to the inquiries that were made by such persons, and to the difficulties which I found they had experienced in meeting with information of a medical nature to direct their steps, or furnish them with rules for observance in the altered circumstances in which they were living, that I was led to conceive the idea of collecting such notes as I could, and putting them together for their use.

In carrying out this purpose, it has formed no part of my plan to discourage, unduly, the pretensions of the Italian and French Mediterranean coast as a suitable residence for invalids. And

doubtless, there are some forms of disordered health, for the relief of which those districts are well adapted. Advantage, however, has been taken, in several places, to contrast and compare the temperature, meteorology, state of vegetation, &c., of different localities. The results of all such comparisons go to show the great superiority of the climate of southern Spain over that of Italy. An experience of two winters passed in Italy, convinces me that much of the objection, so forcibly urged by Dr. Burgess and others, against the climate of that country, is well founded. An experience of three other winters passed in the peninsula is equally convincing, that, when judiciously selected cases of disease are sent to Spain, each one to the locality best adapted for its treatment, the climate of that country in its good results will rarely disappoint any reasonable expectation.

The peninsula is a new field for the English invalid, and fashion has not hitherto directed attention to its claims. But so accessible is the country now become, and so improved its accommodation for travellers, that the positive merits of its climate cannot much longer remain disregarded.

INFLUENCE OF CLIMATE.

The belief in the sanitary effects of change of air, and in the existence of peculiar properties in the air of certain localities, does not rest on the opinion of physicians only; it is confirmed and supported by general experience. The father of medicine, more

than 2,000 years ago, wrote one of his most sagacious books on the subject. At the present day, also, whenever there is a protracted convalescence, or an obscure disease has long been threatening, or obstinate pains have to be combated, so long as there are no acute symptoms present, the question at once suggests itself to the mind of the patient, or of some anxious friend, whether change of air, either in his own, or in a foreign country, might not bring about a return to health.

We have all witnessed the domestic employment of the remedy. How the removal of a few miles from one spot to another has restored a pallid cheek, a lost appetite, distempered nerves, or a deranged digestion to a state of health ; how whooping-cough has been arrested, as if by magic, and fits of asthma avoided. These are only lesser illustrations of those more important impressions, that may be wrought in the constitution by a more decided change of latitude and climate; and which will admit of demonstration as satisfactory as it is possible to obtain in the case of any remedial measure whatever. Instances in support of this statement will be met with in subsequent pages ; at present, the following case may be cited. It came under my own observation whilst travelling in northern Italy, and, from circumstances, I was enabled to have a close and minute acquaintance with all the symptoms.

A. B., a person of abstemious habits, and in the prime of manhood, came to Genoa in the middle of July, after enjoying excellent health in the dry air

of Provence. For the first two or three days after his arrival, both the digestion and spirits were good ; then, without apparent cause, he experienced a remarkable drowsiness, provoking midday sleep, as well as long night sleep ; both unrefreshing, and attended with unusual irritability of temper. On the fourth day, the urine became scanty, and deposited small, but abundant, groups of lithic acid crystals, which were firmly cemented to the vessel. At the same time, profuse perspirations, which would come on whilst sitting still, made their appearance ; although he had had nothing of the sort just before, whilst in Provence, where the temperature was much hotter. Indeed, the thermometer in his own shaded room at Genoa, seldom rose higher than 77°, never than 80°.

The avoidance of fruit, vegetables, and wine, seemed to make no difference in the lithic acid deposit.

On the eighth day he was surprised one morning, on getting up, to find the great toe of the right foot rather swollen ; it was decidedly tender, so as to make him limp in walking, and there was a slight blush of redness upon it. This was gout—the first time in his life. Towards evening of the next day it had almost disappeared, perhaps owing to a dose of alkali, so that a little soreness on motion, and an occasional night twinge merely remained.

The commencement of the third week brought an attack of external hæmorrhoids, to which he had never before been subject. There was a good deal of fulness, pain, and tenderness in the parts ; but

the whole was relieved by two days of comparative rest, and by the use of one dose of rhubarb and soap pills. Still it was necessary to take but little exercise, for there remained an unpleasant feeling, which warned him that the hæmorrhoids might again descend at any moment.

And now it became evident that the liver was labouring. There was a slight yellow tinge of the conjunctiva, burning hands and feet, an oppressed pulse, still the same scanty, high coloured urine, midnight watchfulness and restlessness, a dry, coated tongue towards morning, and once or twice a feeling of coldness down the back.

Singularly enough, the food all along seemed to be well digested; certainly there was no atony of the stomach, and the appetite was pretty good. The strength, too, was not much affected, and the mind was as active, perhaps more so, than it usually is during the summer weather of England.

But the most remarkable part of the case is to come. After enduring these symptoms for three weeks, he set out, in the morning, to Albenga, which is distant from Genoa a day's posting, along the coast, the Riviera da Poniente. Arrived here, there were no more perspirations, a load seemed to be lifted from the spirits, he slept soundly, and, the the first time for many days, the urine passed during the first night had lost all deposit, and was quite natural in quantity and appearance. In fact, during two days that he remained at Albenga, the former accumulation of symptoms seemed to have suddenly vanished, as if by some spell. Returning

then again to Genoa for three days only, there were decided indications of their re-appearance. The only medicines taken throughout were the single dose of alkali, and the rhubarb aperient, before alluded to.

I have detailed this case, thus at length, because it furnishes a clearer evidence of the direct influence of climate upon the health, than we can often have the opportunity of observing. I do not refer, in this place, to some other interesting features which it presents. Genoa, it should be mentioned, is so hemmed in by a steep, rocky buttress of the Apennines, presenting a crescent-shaped outline to the water, that if it did not climb their sides, it must go into the sea. Albenga, on the other hand, lies in the level open ground, a mile or two from the sea at the mouth of a broad valley where the mountains recede to a distance of several miles from the coast, and is freely swept by the land and sea breezes.

Let us now glance, in illustration of the same point, at the effects of certain winds upon the human constitution. In our own country when the east wind prevails, persons in good health are often warned of its approach by headache, uneven temper, and gnawing pains in the limbs. Nervous persons especially suffer, and experience exacerbations of their complaints. Its hurtful effects have indeed passed into a proverb.

Whenever in Andalucia the Solano blows, quarrels and knife-wounds are always increased in number; and I have mentioned, under the head of Seville,

the fact, that in the administration of justice, some allowance is always made for the commission of such crimes during the prevalence of this wind. The depressing and irritating effects of the Levante or east wind, upon the health and temper of our countrymen at Gibraltar are well known. At Thoulouse, I was told, that in the shooting galleries in that town, the hand of even the most experienced marksman is never steady whilst the Autun is blowing, a dry, nerve-deranging wind, that comes down the valleys of the Pyrenees from Spain.

During my stay at Naples, there was a large arrear of cases in the great hospital waiting to undergo surgical operations. The performance of these was delayed until after the departure of the *sirocco*, which had already blown many days ; and all experience had shown the danger of operating while it lasted. In the same city the sirocco seems to influence the mind even more than the body. An ill penned epistle, an unsuccessful poem, a pointless speech, failures in business or politics, are all complacently put to the account of this inauspicious visitor ; and it is said, that during his presence, even the lover never ventures to appear before his mistress. Such was the influence of the same wind on the French troops, during one of Marshal Bugeaud's campaigns in Algeria, that as many as eleven soldiers committed suicide.* Finally, the knowledge of Shakspeare extended to this as to other subjects : "I am but mad," says Hamlet, "north-north-west :

* Martin, Manuel d'Hygiène, &c. Alger. 1847.

when the wind is southerly, I know a hawk from a hand-saw."

But it is unnecessary to multiply such instances; for few will pretend to deny the effects of certain states of the atmosphere on the mind as well as on the body; effects which are quite independent of mere temperature.

Along with this, we find the enlightened views of modern medical practice, enlarging the basis of its curative means, and putting its trust, not in the employment of drugs only—often indeed assigning to them but an ancillary value—but calling in the aid, without regard to its nature, of any adjuvant that reasonably promises relief. And so it has recognized in change of air and scene, and in those moral and social influences which go along with them, to a degree far beyond what our more immediate ancestors would have been prepared to admit, a most powerful agent in the treatment of actual disease, and of those numerous lesser ailments, the diffusion of which seems to advance with the advance of civilization. To this end, the admirable work of Sir James Clark, the first, I believe, in which anything like a system of sound principles was advanced for our guidance in the selection of localities, has very much contributed.

On the other hand, some bounds have been set since the general employment of the stethoscope and the more successful cultivation of the pathology of diseases of the chest, to an indiscriminate recommendation of a distant climate in cases of pulmo-

nary consumption. This, there is reason to believe, was formerly done, not unfrequently, regardless almost of the particular stage of the disease, so long only as there was sufficient strength to bear the fatigue of the journey. It is hardly fair to make use of the evidence of misdirection of this kind which such cemeteries as those of Pau, Nice, Leghorn, &c., are supposed to afford, as an argument in condemnation of all foreign climates in the disease in question. Still a visit to these places does create some suspicion that many persons must in time past, most injudiciously have been sent away to end their days in a foreign land, far away from the comforts and kind condolence of home, for which, under the circumstances of extreme sickness, there is no equivalent abroad. But I refer to this subject only, for the purpose of allaying any groundless apprehensions which it may excite, and of pointing out how much easier it is in these days, by means of new modes of investigation, to detect the fearful disease in question at an early period of its existence, when the prospect of cure or almost indefinite protraction may be reasonably entertained. The remedial means may therefore be applied as the first, and not, as formerly, as the last resource.

Admitting then the fact of the sanative properties of climate, there are good grounds for bestowing an increased degree of confidence on its power as a remedy ; a confidence founded on the advancement of medical science. For there certainly does exist among medical men a nicer discrimination of what invites and what forbids a trial of change of climate,

in the case of those diseases for which it has been always recommended. There is also a knowledge of the fact, that such change may be prescribed, with even greater chances of success, in several other affections in which its employment is comparatively modern. To these advantages may be added a clearer and more extended acquaintance with the peculiar properties of different climates, and with the particular maladies and constitutions for which each is best adapted.

There are also many invalids, who, having made in their own persons the experiment of removal to a new climate, and experienced therefrom such relief as no treatment in their own homes had afforded them, are to be found among its warmest advocates. And although the practice in England is still perhaps less general than on the continent,—and even in Spain and Portugal, it is extensively carried out, at favourable seasons, so that special funds are often raised for the use of the poor ;—it is easy to see that, owing to the circumstances just mentioned and to the increased facilities for travelling, it has received a fresh impulse.

CAUSES WHICH MODIFY CLIMATES.

The inquiry now naturally suggests itself—on what do these various properties of climate depend ? It is very desirable that persons travelling about for health, should possess some information on this subject ; because, they must sometimes be thrown upon the resources of their own judgment

in considering the fitness of any locality for their residence. Nor is the subject without interest at home. Many a needless change of residence from one part of the country to another, or even from one side of London to another, might have been saved to delicate and susceptible persons, by a proper inquiry beforehand into the hygienic condition of the air.

Sometimes this question is a very complicated one, and requires for its solution, if indeed it can be determined at all, the consideration of many circumstances that are not at first sight very apparent. At others, a glance at the external features of a place, enables us to form a pretty correct opinion of the probable qualities of its air.

The degree of latitude, the distance from the sea, the amount of elevation above its level, and in the case of maritime districts, the direction of the currents, whether flowing from a warmer or colder region, are the causes principally concerned in the production of temperature.

The course of the prevailing winds, and, if they come from the land, the nature of the country over which they have passed, must be ascertained. These winds we shall see in several succeeding pages to be of so much importance, as often to neutralise the effect of local circumstances. Often, indeed, they transport the atmospheric peculiarities of one district to a neighbouring one, possessing a very different topographical character ; or waft to an otherwise healthy situation the seeds of disease which they have gathered at a distance.

The physical condition of the atmosphere, whether habitually calm or agitated, and the amount of shelter afforded by mountains and hills, or other accidents of the surface must also be observed. In some countries the vegetation bears visible marks of the force and frequency as well as of the withering effect of the prevailing winds. In several situations in England, and in most parts of Provence and Languedoc, the trees can never rise beyond a certain height, and they are seared and flattened at the top, as if truncated, or driven to grow all to leeward. How remarkably this happens in the exposed countries about Avignon and Narbonne. The calmness and stillness of other atmospheres is no less striking. At Pau it is rarely that the leaves are seen to flutter, even on the loftiest trees, although you watch from day to day. The same thing is observable, although in a less degree, at Rome, where also there are intervals of high winds. In such places a heavy depressing effect is usually produced on the constitution. This is the soothing influence which is so beneficial where there is much irritation or tendency to over-action in the system.

Then the situation, whether in a close valley, on the slope of a hill rising out of the open plain, or in the open plain itself. In valleys that are deep and narrow, especially when tortuous, the air circulates with difficulty. They are often filled with vapours and malarious exhalations, and are the chosen abode of goitre and cretinism in districts where those diseases prevail. The life of a man con-

demned to inhabit such confined localities has been compared, with reason, to that of a river fish shut up in a pool. He exists only in a state of extreme languor.

Valleys that are less contracted are often healthy, and have a softer and less bracing climate than the corresponding open country. Moderate elevation of situation was shown to enjoy a remarkable comparative immunity from cholera. Situations of greater elevation are best suited for summer, and then, as in mountainous regions generally, great care is necessary in order to guard against sudden transitions of temperature,—a hot sun here, a cold current there. The hill-slope, especially if it has a southern aspect, is often both warmer and drier than the country immediately below where the fogs form. It may be observed that dahliahs, which perish with the first frost, are still flourishing on the high ground when their fellows in neighbouring gardens, lying lower down, are already black and withered. Even in lofty situations the cold is sometimes less sensible than in the plains far below. Some monks at the Grande Chartreuse, which is buried in snow for many months in the year, told me that, on going to Lyons during the winter, the sensation of cold increases on approaching the town, although it lies several thousand feet below the convent.

Proximity to the sea, independently of the properties of the exhalations to which it gives rise, is often favourable to warmth and dryness of the air. This latter effect is very evident at Nice. But, wherever the prevailing winds have swept a broad

expanse of water, the situation on the coast is usually damper than one further inland. The neighbourhood of rivers or rapid streams and the source of their waters, whether derived from rain, springs, or melted snows, also modify climates. Rivers not only set air in motion, and render it more or less damp, but attract rain-clouds and storms, and influence the temperature, particularly when the waters are derived from melted snow. The occasional or frequent occurrence of rain, fogs, or clouds, bears very much upon the question of the dryness, as well as of the warmth, of the air of any locality.

The nature of the soil and the general geological characters of a neighbourhood directly influence its climate. In chalky or limestone districts the air is cool and dry ; and the bracing, exhilarating nature of its effects upon the body corresponds with the pleasing sensations that are excited in the mind by the transparent sky, and the cheerful, smiling richness of the landscape, so usually observed in such countries. In sandy districts also, dryness is a character of the air, which is, however, usually warmer, softer, and sometimes decidedly relaxing. The same may be said of gravelly soils ; although I think, that when the country is open, the air is more frequently bracing. So favourable are soils of this kind to dryness, that even moated houses standing upon such a foundation may be remarkably exempt from damp. Wherever clay, either as surface or subsoil, abounds, the air is damp, cold, and proverbially fruitful in rheumatisms and catarrhs.

We can always judge of the importance of attending to these features, by observing their effects in situations where two or more different kinds of soil, such as sand and clay, sand and chalk, &c., meet together. Persons are found to enjoy health in one spot, whilst in another, although near at hand, they had always been ailing. Other kinds of soil are composed of disintegrated rocks, or of the alluvium recently deposited from rivers. These latter are always to be avoided.

It is unnecessary to point out the insalubrity of marshy ground, or, as a general rule, of the neighbourhood of stagnant waters, or of lakes or rivers with swampy borders.

The degree of moisture and the colour of a soil directly influence, on well known principles, its power of absorbing heat. Two portions of the same soil, one dry and the other moist, exposed at the same time to the sun, acquired a difference in temperature of from 12° to 14°.* In regard to the influence of colour, Schubler observed that a lump of clay painted black and exposed to the sun became $13\frac{1}{2}$° warmer than the same clay when painted white.

The composition of the soil greatly affects its power of radiation and conduction of heat. The authority last quoted found that the power of calcareous sand for retaining its heat being as 100; that of siliceous sand was 95; chalky arable land 74; clay soil 68; garden ground 64; and humus 49.† These observations are in accordance with

* Becquerel des Climats.

† Becquerel, Op. Cit.

the common opinion, that sandy and uncovered chalky soils have a considerable influence on the warmth of the atmosphere during the night.

Further: different soils conduct the electricity and absorb gases from the atmosphere in different degrees; whilst the emanations that proceed from them are, doubtless, no less important in their influence upon climate. The subject has not hitherto been much studied; but certain facts clearly point to its importance. Various salts, such as the chloride of sodium, sometimes exist diffused in the atmosphere; and the growth of the barilla plant in Spain, which extends from twelve to fourteen miles from the sea, depends on the presence of this salt in the air. Certain other salts, there is reason to believe, may be carried up from the soil itself; these are all recognisable by chemical tests. The presence of other emanations can be detected by the sense of smell only; whilst miasmatic exhalations, or those which issue from the ground in volcanic countries, such as the Campagna of Rome, and the shores of the beautiful lake of Bolsena, are manifested only in their deadly effects.

If not to some influence exerted by the soil upon the atmosphere, to what can be ascribed the existence of cretins in the valley of Aosta and elsewhere? of the pellagrosi in Lombardy and the Romagna? and of the lepers at Lisbon?

The absence or presence of vegetation on the surface of the soil, and its nature, whether wild or the result of cultivation, must also be taken into account. It is often thought, on the continent, that

the aroma which exhales from forests of pine-trees, or from the sweet herbs that grow upon dry upland wastes, medicates the air, so as to render it highly beneficial in cachectic diseases. And in our own country we find convalescents—and I have known more than one such instance myself—rapidly regaining strength and appetite whilst frequenting hop-gardens during the picking season.

Countries that are bare are colder than those that are clothed with trees. It is to the naked character of the surrounding district that very much of the keen penetrating property of the air of Madrid—which destroys so many persons by pneumonias and colics—is to be ascribed. As it descends from the snowy summits of the Guadarrama, cold and subtle, so does it enter the city, scarcely warmed or modified by the many leagues of intervening country which it has traversed. Nakedness of this sort also makes the air drier. It is well known that the river Guadalquivir was navigable from Cordova to the sea in the time of the Moors, at which period much of the adjacent part of Andalucia was well timbered. Boats can now ascend no higher than Seville; and Spaniards, not unreasonably, attribute the diminished stream of water, which is known to exist, to the extensive clearings that have been made in the country.

Nor is the atmosphere so constant in composition as it was once supposed to be; and modifications of climate may be presumed to arise from deviations

in this respect from the ordinary standard. The numerous experiments of Regnault and others * show that there is a certain amount of variation in the proportion of oxygen in the air at different altitudes, and in different localities.

Moreover, recent research has detected in the atmosphere the presence of a highly irritant principle, ozone. Whether it is to be regarded as an independent body, as its discoverer Schönbein supposes, or a mere allotropic condition of oxygen, it doubtless plays an important part in regard to the healthy properties of the air we breathe. Mice were found to perish quickly in an atmosphere containing $\frac{1}{6000}$. When existing in excess, it is capable of exerting injurious effects upon the respiratory organs; and its discoverer, having detected in the air at Basle, large quantities of ozone during the prevalence of epidemic influenza, was led to view the two facts in the light of cause and effect.

An unduly small proportion of this agent in the air may, on the other hand, lead to disease in another way. For, being a most powerful oxidizer, it at once destroys those poisonous gases composed of hydrogen united with phosphorus, sulphur, &c., the presence of which renders the air irrespirable. The various gaseous products of the decomposition of animal and vegetable matters which are being incessantly evolved, especially in great towns, seem, according to the experiments of Schönbein, to yield no less completely to the destructive influence of

* Comptes Rendus, t. 34, p. 867. *Vide* Becquerel.

ozone. Hence it is viewed as the great purifier of the atmosphere.*

Faraday tested the air to the windward of Brighton and found ozone, whilst in that of the town itself there was none. It would seem that the wind in its passage over towns has its ozone more or less consumed in oxidising gaseous impurities. Beyond this all at present is speculation. But it is not improbable that some connexion may be found to exist between the quantity of ozone present — and the soothing or irritant properties of the atmosphere. Although the constant existence of this principle in the open air of the country and upon the sea is ascertained, the proportions in which it exists in different localities is found to be subject to great variation.

The density and the rarity of the atmosphere as indicated by the barometer; the intensity of the sun light, and the direct or diffused presence of his beams; the varying quantities of electrical fluid, and the dry or humid character of the air, are other causes of peculiarities of climate, in regard to its effects on the human constitution.

It is the varying degree of combination of the physical features of the soil which we have just passed in review, and of the atmospheric phenomena themselves, that stamps upon the climate of each locality its prevailing character. The sensations excited in the body by warmth and cold depend very much on the dryness or moisture of the air. A degree of heat which would be unbearable under

* Brit. and For. Med. Chir. Quar. Rev. 1852. † Med. Gaz., 1851.

the latter condition produces but little discomfort under the former. A low degree of cold also which gives rise to no inconvenience so long as the atmosphere is calm, becomes very sensible when it is agitated by winds. So also, a serene or clouded sky, and a moderate or excessive supply of electrical fluid in the air, and other combinations which need not be mentioned, considerably influence the sensible temperature. Indeed, the frequent want of correspondence between our sensations and the indications of the thermometer sufficiently proves, that those sensations are not due to temperature alone.

The principles which have now been stated furnish an available clue to some of the causes on which the properties of climate essentially depend. They do not, however, suffice to explain, in every instance, the phenomena that are presented to us, and which in the present state of the knowledge of the subject, appear often to be sufficiently anomalous. We must, therefore, occasionally rest content with observing and receiving their effects, although unable to explain their causes.

VARIETIES OF CLIMATES.

The constitutions of many persons are so nicely balanced that they are but little sensible to the influence of those ordinary changes of climate to which moderate travelling commonly exposes us. Whether these persons breathe the soft air of southern Devonshire, or climb the hills of Malvern, the same health, the same spirits, the same strength,

attend them, *cœlum non animum mutant.* The happy elasticity of their system adapts it readily to all ordinary variations of atmosphere. These are the persons who, drawing their ideas from their own sensations, are sometimes apt to be sceptical as to the reality of those influences upon others; or, to find in them subjects for playful remark. Sometimes even to view as fancy and caprice the necessity which obliges many persons, with a view to their restoration of health, to pass an occasional season away from their usual abode, or to go rambling about from place to place. And yet this is a real necessity in the case of many little ailments, *nullis medicabiles herbis,* which refinement, high civilization, and mental labour, impose upon the susceptible and delicate.

As a general rule, however, people are fully alive to the different effects which different kinds of atmosphere produce on the health. And these effects, so far as they do not depend on mere temperature, have lead to the arrangement of climates under two classes;—those which habitually brace and stimulate the body and raise the spirits, and those, the effect of which is to relax, subdue, depress. The former seem to derive their properties chiefly from the dryness of the air, although it is somewhat doubtful if that condition alone is sufficient, in all cases, for their production. These are the climates which, when they are not extreme, are found to agree best with the greater number of invalids who leave England on account of their health; morbid states in which there is more or less of general debility,

when unattended with active symptoms, usually experiencing relief under their influence. This class of climates may be termed tonic, and, like the medicines of the same name, are contra-indicated in all cases where there is anything like inflammation or irritation, or a natural susceptibility of those morbid states.

It is a mistake sometimes made to infer, that, because a climate is mild or hot, it is on that account relaxing. Such climates, on the contrary, so long as the air is dry, are often highly strengthening and exhilarating, even in the summer. A striking proof of this was experienced by our own party whilst riding on horseback across the sandy plains and pine forests of the maritime portions of Estremadura, the lower Beira, and the Entre Minho y Douro in Portugal. Here the temperature very far exceeded the ordinary summer warmth of England, for the month was August; but the sky was cloudless, and all the day, the dry north breeze blew gently in our faces; and although we seldom passed less than ten hours daily in the saddle, and found the sleeping arrangements sufficiently uninviting, unpleasant fatigue was never the subject of complaint. One, indeed, of our number, who commenced the excursion whilst suffering from atonic dyspepsia, speedily lost all his symptoms. My friend, Dr. Noyes, tells me that the results of his experience in Egypt were very similar.

The prodigious marches, also, which not only the native but the French, and our own armies, were able to make during the Peninsular War, sometimes

whilst suffering great privations of diet, can only be attributed to the favourable and sustaining nature of the dry atmosphere of Spain in which they were made. This allows the pulmonary and cutaneous exhalations to escape insensibly, even during periods of great activity and exertion. There is, perhaps, hardly anything of the kind on record, to surpass a feat of three English regiments under General Craufurd, which were hastening to the field of Talavera. "Leaving only seventeen stragglers behind, in twenty-six hours they crossed the field of battle in a close and compact body; having in that time passed over sixty-two English miles, and in the hottest season of the year, each man carrying from fifty to sixty pounds weight upon his shoulders."*

The Spanish muleteer habitually walks by the side of his animals, which usually keep a good pace, from sunrise to sunset, with a two hours' siesta in the middle of the day; and before going to rest he joins in the bolero and the song at his hostel, without a sign of weariness either in the feet or the voice. In Portugal the same class of persons will keep up on foot with the brisk trot of their animals for many miles together.

Many parts of England afford examples of this kind of climate; although its character is liable to fluctuation from the occasional occurrence of relaxing winds. It exists, also, in nearly the whole south-east of France, sometimes in an excessive and hurtful degree. Considerable portions also of Germany, and of the north of Europe generally, during

* Napier, Hist. War in Penins. vol. ii. b. 8. ch. 6.

the summer, possess a bracing air. Italy is less conspicuous for this kind of climate than many other countries. Nice affords the best example—but this is on the confines of Provence—and next to it Naples and Venice, when the land winds blow. Enervation, however, is the rule of the Italian climate. Of all European countries, the Spanish Peninsula—meaning, by this term, here as elsewhere, both Spain and Portugal—possesses this kind of air over the greatest extent of surface; there being, indeed, comparatively few portions in which it does not exist.

The chief characteristic of the air, in the second class of climates, is the presence of a large proportion of moisture. This, at least, seems to be the condition most uniformly present; although at Pau, which is built upon an elevated terrace of gravel, and possesses a sedative and relaxing climate, the air is said to be decidedly dry. The whole subject, indeed, requires close and new modes of investigation.

Such climates, in contradistinction to the preceding ones, may be termed atonic; and it is in cases in which there is a tendency to inflammation or irritation, or where it may be necessary to control an excitable circulation, that they are to be prescribed. They are sometimes very beneficial, also, in derangements of the nervous system; although, whenever, along with such derangement, there is associated much debility, or a liability to congestion, climates of a drier kind are to be preferred.

It seldom happens, unless in those exceptional

cases of rude constitution to which I have before alluded, that they agree with persons in good health; and this we shall find to be the case with the air of many spots where the pulmonary invalid breathes most easily. Even those who are born in such climates do not always escape their depressing influence. The native race of Pau and its neighbourhood, for instance, are said to be, both physically and intellectually, although not morally, considerably below the ordinary French standard. Still there are some persons, particularly such as are of a sanguine temperament, and a lively, imaginative mind, who never feel so well as when breathing an atmosphere of this kind. And so it is that, at Rome, we hear them speaking of an intense enjoyment of life, such as they had never experienced elsewhere. But it is generally far otherwise when, from any cause, their health and strength begin seriously to fail. The unkindly effects of moist climates upon all constitutions in which the lymphatic temperament predominates, are usually shown in depressed spirits, feeling of weariness and enervation, labouring digestion, as well as in the occurrence of some passive local congestion, glandular swellings, &c. Wherever there is a tendency in the system to struma a moist air is particularly hurtful.

Examples of this kind of climate are to be found along the greater part of the south-west coast of England, and in the Channel Islands; but most remarkably, for a large tract of country, so far as I have seen, throughout the maritime portion of the western side of France, particularly the "littus por-

tosum" of Brittany. Here, and in the Channel Islands, the presence of atonic dyspepsia among the poor is remarkably common. The diet in those countries consists largely, it is true, of vegetables; a species of soup made of cabbage, with a little fat, forming the substantial part, both of breakfast and dinner, in the islands; whilst in Brittany the substitute for bread among the peasants is a sort of thick black looking porridge, made from the seeds of the buck wheat (*blé sarrasin*). Nevertheless, a food of a more exclusively vegetable nature still, does not give rise to the same class of affections in countries where the air is more bracing. In Spain I have ascertained the truth of this statement by inquiries of medical men practising in different localities. In the dry air of Murcia whole families of the very poor may be seen to go out into the gardens that abound there, and, sitting upon the ground, dine on a profuse supply of raw lettuces; courteously and gravely inviting the passer-by, after the Spanish custom, to partake of their repast. The enormous quantities of oil that are habitually consumed by the rich and poor in such countries, give further evidence of a power of digestion to which the rebellious stomachs of those who dwell in softer and more humid climates seldom attain. In the province of Valencia I have repeatedly seen the wiry, active muleteers, make a mid-day meal of a lump of bread, into a hole in the centre of which a quarter pint measure of oil had been poured. The same thing may be witnessed among the Moors in Algeria.

Other well known examples of humid climates are

Pisa, Rome, Madeira, Palermo ; and it is worth remembering, that local peculiarities may create a climate of this kind in the midst of districts that are remarkable for the dryness of their air. Several of the wooded valleys in the Castiles might be mentioned in illustration of this observation.

There is still another kind of climate which produces a no less characteristic effect on the body, although it has not been made the subject of distinct notice. It may be termed an irritant climate, and it exercises a direct influence on the nervous system, which it often deranges in a remarkable manner. In some places, the kind of air on which this property depends, prevails for a few days or weeks only, at certain seasons of the year ; in others its occurrence is so frequent that it becomes the leading feature of the climate. Its effects extend from a slight degree of nervous irritability, depression of spirits, moroseness of temper, aching in the limbs, often taking the course of some of the larger nerves, headache, pain in or about the eyeball, and dyspepsia, to an extensive derangement of the whole system. All nervous affections during its persistence are greatly aggravated ; and the inhabitants of localities where it is much felt, become singularly alive to the signs that indicate its near approach.

The precise cause of this state of air does not at present admit of satisfactory explanation ; but it often happens that the wind, by which it is usually accompanied, has traversed districts of dry land. The air is not necessarily of high temperature, for it is known that in the colder months of the year, the

mistral, which commences as high up in the valley of the Rhone as Valence, and spreads itself over Provence, possesses a penetrating lively coldness, which no amount of clothing, and no amount of exercise, even in the robust, can fully conquer. And this wind, which stamps the climate of a large district, manifests its nerve-deranging properties almost equally in winter as in summer. The quarters from which irritating winds proceed are most various. In England, Seville, and Cadiz, it is the east; in Provence, under the name of mistral, it is nearly north-west; at Valencia it is the west; whilst at Madrid and in the French valleys of the Pyrenees, where it is called the *Vent d'Espagne,* it is the south.

In Provence, and parts of Languedoc, the irritant climate is almost the rule. Arles, Avignon, Aix, Marseilles, and Narbonne, are head quarters of the impetuous winds on which this character mainly depends; and short are the intervals between their departure and re-appearance.

In Italy the spring and summer partake most of this property of the air; and in some places it is chiefly the latter season. Such is the case, for instance, at Madrid.

At Marseilles the following account of himself was given me by an English gentleman of high scientific attainments, who is settled in that city. He is naturally strong and robust. Shortly after coming to Marseilles, some years ago, he suffered from severe headaches, nervousness, and general indisposition; symptoms that were quite new to him.

He consulted a French physician, who prescribed blood-letting from the feet, which was practised two or three times, but with the effect of increasing rather than relieving his symptoms. After a time he observed that his indisposition always came and departed with the mistral, a discovery that induced him to submit passively to his suffering for the future. This case inculcates a useful lesson in regard to unnecessary blood-letting—a not uncommon practice in most of the warm climates that I have visited.

I have several times had the opportunity of observing the protracted effects of irritant climates on Englishmen with whom I have come into contact in different countries. They were mostly persons inclining to the nervous temperament. The symptoms were so wholly depending on climate that they are here detailed; so that travellers, who may become similarly affected, may know to what cause to attribute their indisposition, and by what means it may be remedied.

They may be thus summed up. A sense of aching, weight and debility in the lower part of the loins, sometimes spreading over the sacrum, or along the sciatic nerve, so that an instinctive desire exists to support these parts with the hand. Fatigue after slight exertion, and sometimes a sudden accession of temporary lassitude, for which the person is unable to account. A deficient appetite, and yet there is a craving for food, and a feeling of sinking even immediately after a meal. Great irritability of temper, depression of spirits, and inability to apply the

mind long to any subject. A longing and gasping for fresh air after remaining a short time in the house. Frequent accessions of drowsiness during the day, without the power to sleep; or the sleep is unrefreshing, and the drowsiness still remains. The action of the bowels is capricious, and a constant symptom is an increased flow of pale urine, with a tendency to decompose rapidly; films of phosphates forming upon the surface. To these symptoms may be added occasional perspirations and burning of the hands and feet, general restlessness, and nervousness.

If the person so suffering continues to remain in the locality, the disorder increases; but attention is drawn particularly to the increased flow of urine and the perspirations. To pass the former, which becomes more and more copious and pale, there is a call regularly once or several times during the night, whilst the latter are profuse, and occur soon after falling asleep.

The most severe instance of this state of things that came under my notice occurred at Madrid, in the months of August and September. All the symptoms, however, speedily vanished on removal to the cooler and more bracing air of Salamanca. And this indeed is the remedy—change of air.

We thus see that peculiar states of the atmosphere are capable of originating a train of symptoms which may be so severe as to amount to actual disease. Their influence also, not only in the production of various chronic complaints, especially in

persons of sensitive constitutions, but in giving rise to those apparently capricious variations, that are often observable in their progress, can scarcely be doubted. A restless night is often to be explained in the morning by finding the wind in the east; and what are termed good days and bad days, in the progress of nervous affections, are frequently to be so accounted for. The more the subject is studied the more potent does this influence seem to be. Many illustrations on this point occur in various parts of this book, and I strengthen the evidence they afford with the following case, which occurred in the practice of my friend, Dr. Gull, of Guy's Hospital, in whose words it is detailed.

"Jessie S. was a healthy infant up to the sudden occurrence of convulsions, at the age of five months. The attacks began in October, 1849, and recurred at short intervals for several months. During this time there was a remarkable prevalence of east and north-east winds, to which our little patient was exposed, from the position of the nursery facing the east, and being at a great elevation.

"The condition of the system leading to the convulsive seizures, was, evidently, a deranged condition of the liver and colon, as evidenced by the paleness and mucoid character of the evacuations. This we endeavoured to remedy by the usual means, but without any other result than a temporary restoration of a better state of things. Having often observed the influence of atmospheric causes upon this condition of the liver, especially in young and

susceptible subjects, I could not but acknowledge its influence in this case, and so far as coincidencies could be considered confirmatory, they were so here. The fits continued to recur every day or two until the spring of 1850, when, simultaneously with a change in the prevailing east and north winds to south and south-west, the liver began to do its work better. The dejections became healthy, and the child's health improved, there being no more fits until the following year at the same season, when it had a return of the same symptoms for several weeks, and followed by a similar improvement on a change in the wind to south and south-west."

CHAPTER II.

Diseases in which change of air is beneficial—Pulmonary consumption —Climate of England contrasted with that of Algiers or Malaga—Evidence of the remedial value of climate—Cases for its employment—Hints to consumptive travellers—Cod-liver oil—Bronchitis—Respirator—Heart disease—Asthma.

In enumerating those forms of impaired health and of actual disease, for the relief of which a change of climate may with confidence be prescribed, I do not propose to enter at length into a detail of their symptoms. Of this, neither the limits nor the object of the work will admit, and such information may be readily obtained elsewhere.

PULMONARY CONSUMPTION.

The good which it is reasonable to expect may be effected by a judiciously chosen climate in this disease may be thus stated. To improve that state of fading health, which, generally speaking, precedes and marks the approach of the lung affection. To arrest the further deposition of tubercle when the

process has already commenced; and, by avoiding much of the risk that exists in a cold and damp air, of contracting local inflammation of the lung or bronchial tubes, to leave the morbid deposit in a favourable state, at any rate, for remaining passive and inert, if not indeed for being removed. To this may be added, when, in cases of chronic phthisis, the above ends are no longer attainable, the prospect which a favourable atmosphere affords of protracting, more or less indefinitely, the progress of the complaint.

Such are the objects to be attained; and for this purpose it is sometimes thought, that the milder localities in our island are as full of promise as the choicest places of resort abroad. If the advantages which a place, such for instance as Algiers or Malaga affords, are considered by the side of those of the mildest spot in England, it is difficult, surely, to come to the conclusion that the above is a well founded opinion. In the first place, however, it must be borne in mind that the remedy which, beyond all others, is useful in the early period of phthisis, is the opportunity of breathing fresh air without the risk of taking cold; not for one only, but for many hours daily.

At Malaga exercise may be taken and several hours passed in the open air, almost daily, throughout the winter. There is a comparative absence of rain; for we shall see hereafter that the average number of days on which rain falls in the year is, at the utmost, only forty. Daily the windows may be thrown open, even without the necessity of leaving

the room, if the precaution of selecting a southern aspect has been taken. So that free ventilation is secured without fear that the apartments will be filled with a chilly damp or foggy atmosphere. Frost or snow will never be seen, unless on the distant sierras. Then there are the vivifying effects of the glowing light and the genial warmth of the mid-winter sun, which, in some sense, may be said to be a physician to the invalid, even as, according to the Spanish proverb, it is a cloak to the poor—"es el sol la capa de los pobres." These are direct and positive advantages, to say nothing of the cheering effects on the spirits of a brilliant sky and landscape, and of the novelty of scene and circumstance which Spain everywhere affords.

Now in the mildest spots in England, supposing that we escape frost and severe cold, it is necessary to reckon upon 150 rainy days in the year (Torquay 132, Penzance 178, Hastings 153), besides a certain amount of fog, damp, and clouded atmosphere. For the invalid this implies the necessity, on many days, of taking exercise indoors if he takes it at all, and it implies an imperfect ventilation. He lives also beneath a sky calculated rather to depress than elevate his spirits, and in a climate where the disease which he hopes to escape or control is very frequent, instead of in one where, to use a most guarded expression, it is very much less frequent.

The presence of friends and the superior comforts and resources of the home are advantages certainly on the side of England; but this is hardly so much a part of the medical case. As to the journey to a

distant place, if well arranged and carried out, it may be made in itself, very often, to play a beneficial part.

So far the reason: experience on the subject is also satisfactory, but it is incomplete. A demonstration of the good or bad results obtained by removal to mild climates, is just one of those things that it must be difficult to obtain. Of those who die abroad who can say they would not have died sooner at home, or, that many of them were not sent out in a state hopelessly incurable? Again, of those who have recovered their health there, who can say that they would not have been equally fortunate in England? As in the case of many other remedies the evidence is that of probability; but this I believe to be wholly in favour of the views here stated; and this probability will be seen in the chapter on Algiers to attain a very high degree. It seldom falls to the lot of the physician to obtain a proof, so nearly amounting to a certainty, of the influence of a mild climate on the disease in question, as that recorded by Louis. "Dr. Schedel mentioned to me lately," says he, "that in a family which had lost sixteen children in youth, and at the same age, by phthisis, the seventeenth child, sent at a tender age far away from his native country, escaped the disease which had been so fatal to his family."*

Of one kind of evidence however that can be obtained, there is an abundance. You meet at several of the mild places abroad with a very considerable number of young and middle-aged persons, subjects of

* Louis on Phthisis, Syd. Trans. p. 542.

chronic phthisis, or but lately on the very threshold of that disease, who have been in the habit of passing their winters abroad, their summers in England. They live pretty much as they would wish to do, and enjoy a state of good general health, and a freedom from cough and other symptoms, which experience has taught them they may not expect to find in England; where they often long indeed, but do not dare, to venture, at least for the present, another winter. This is, substantially, the kind of history that has been repeatedly recounted to me, and in one case which I saw at Rome, hæmoptysis had occurred eight years previously; and ever since, I believe, the winter migration to the south had been made. I could see no reason, judging from external appearances, why it should not be made for as many winters more.

In counting, as some have done, the tombstones to our countrymen that lie beneath the shadow of the pyramid of Caius Cestius at Rome, or bask in many other of the sunny parts of Italy and France, we deal with a fixed record only of the dead. We lose sight in such calculations of those who have been relieved or cured, to the number of whom the former may bear but a small proportion.

The fact that consumption occurs in the south of Europe, as well as in England, has furnished an argument against the expatriation of our consumptive patients. It is true that such cases do occur, but then their number is always very much smaller than in this country. And as the negroes who are brought from the central deserts of Africa into Egypt

or Algeria are found, not unfrequently, to fall victims to phthisis, the natives of those countries remaining exempt from that disease, so, from analogy, we may reasonably entertain the hope that, in the case of a country like England, the migration southward would diminish the risk below the standard of the locality to which it is made, as the migration northward, in the case just cited, had increased it.

It is true, also, that the troops of northern countries, when sent to southern stations, enjoy no immunity from phthisis. This fact is, in some cases at least, susceptible of explanation, independently of the deterioration of health which usually attends the habitual congregation of large numbers of persons. Thus I was told at Gibraltar, by an officer high in command there, how the mortality from pulmonary diseases at that station was to be accounted for. He said that the soldiers, after drinking and amusing themselves in the town, which is warm and sheltered, hasten, when the retreat is sounded after night-fall, to their barracks, which are situated on higher and more airy parts of the rock. They come up heated, and then remain at rest and undress in an atmosphere considerably cooler than that in which their exertion had just been made. The peculiar nature of a soldier's life is but little favourable, when compared with that of a civilian, to the enjoyment of any exemption from chest diseases which a warm climate may be calculated to afford.

The question has been much mooted, up to what period in the progress of the complaint it is justifiable to recommend a removal to a foreign climate.

But in truth, the amount of physical change which the lung may or may not have undergone, is not the only point to which attention must be directed. The rule for each case must be drawn from a just consideration of the general as well as of the local symptoms, and of the constitution of each patient.

Doubtless, the most hopeful prospect which such a change holds out occurs in the case of young persons, who have fallen into that state of cachexia which immediately precedes the development of tubercle. There are few cases in which this stage of warning is not present, in a greater or less degree, and it is to a watchful recognition of it, whilst the disease broods as it were unsettled over the system, and before it has invaded the lungs, that our first efforts must be directed. It is at this period that the hope, approaching to certainty, may be held out, that by a residence for a time in a more favourable climate, the constitution will be enabled to fortify itself against the attack by which it is threatened. At the same time it will in a great measure cease to be exposed, during a critical period of life, to a repetition of those hurtful influences under which it had become impaired.

But when the affection is no longer of a general and threatening nature merely, and the lungs have become decidedly implicated, we are not justified in assuming in every case, that the time is gone by for the occurrence of beneficial results from change of climate.* We know that in the great

* In the account of Valencia, and elsewhere, will be found further information on the subject of phthisis and its cure.

majority of cases the deposition of tubercle is a slow and insidious process, and that it is confined for a time to limited portions of the lung. Even on the commencement of softening and the formation of a cavity, necroscopic examinations—in cases in which death has been the result of some accidental cause—frequently show that the disease has invaded parts of the upper lobe only of the lung. In repeating such examinations upon a series of cases, in different degrees of advancement, the breathing capacity of the lung is seen to have been encroached upon by distinct repetitions of deposit, and by attacks of surrounding inflammation, partly owing to the presence of tubercle and partly to atmospheric causes, &c. Again, cases of phthisis in which the stethoscope has clearly revealed the existence of a cavity in the lung, the patient's surviving for years in this state, with a moderate share of general health and the power to pursue some quiet occupation, are not uncommon. During this time a suspension of the tendency to deposit has taken place, and the cavity, there is reason to believe, has been undergoing the process of contraction preparatory to cure.

Cures, therefore, which sometimes happen in England, may happen much more frequently in milder and drier climates, in which the occurrence of phthisis is unquestionably so much less common.

To sum up then, I would say, that in most cases of phthisis where the disorganisation is circumscribed and not extensive, and the general and local symptoms show that there is no immediate ten-

dency to active advancement, great confidence may, in these days of easy travelling, be placed in removal to a suitable climate; whether to give the opportunity of employing other remedies, such as cod-liver oil, to prolong life, or to cure. Allowance must of course be made for the possible occurrence of those accidents which, sometimes, in cases apparently the most favourable, suddenly destroy life at an early period of the complaint. Such are a profuse hæmoptysis inducing asphyxia, and pneumothorax.

From my own experience of our phthisical patients in different mild wintering places abroad, I believe that comparatively few of them make the most of the advantages which the climate offers. They are too often thrown into the society of persons whose object is to see what there is to be seen, and they engage as adventurously in the pursuit of pleasure as their companions, who may be strong and healthy. Picnic and sketching parties, and visits to cold ruins, marble-paved museums and churches, are most hurtful amusements to the invalid. And at places like Nice, frequent balls and evening parties entice him into the night air, and he goes late to bed, excited and fatigued. On the other hand, many young valetudinarians wander about from place to place alone. A wet day confines them to their room, where they remain without resource, brooding over the state of their health; and whilst on the road, the interminable nuisance in Italy of passport and luggage-searching, exposes them to vexation and waiting in cold places, from

much of which a considerate companion might easily relieve them.

Many travellers abroad honestly confess the hardship of being condemned to go toiling about, from one conventional sight to another, simply because other people have done so before them ; and no part of the operation affords them so much pleasure as the assurance that it is all over. And, indeed, few can resist the temptation of doing what every one else is doing. I would strongly advise consumptive patients, therefore, to go to some such place as Malaga and others of the Spanish coast towns, Algiers, &c., where there are few æsthetic lions, but where the climate, country, and people, afford the main attractions. However well stored the mind may be, there will be always something worthy of observation in a strange land.

The common practice of sending all cases of the disease to some one favourite place, furnishes one reason why faith has been shaken in the sanative properties of foreign mild climates in consumption. Madeira is a good climate, and Nice is a good climate, but each of these is good in different cases ; and a patient who would derive benefit from the one would, in all probability, lose ground in the other. One is sedative and relaxing, the other tonic and bracing. The constitution of the invalid, as well as the state of the nervous system, whether excitable and irritable or torpid ; the character of the bronchial secretion, whether scanty or profuse, and the inflammatory or atonic type of any dyspepsia that may be present, must direct us in de-

ciding which of the two forms of climate is most likely to benefit any particular case. The climate of Malaga, in addition to its mildness and equableness, possesses a great advantage in the absence which it enjoys of any strongly marked qualities of dryness or moisture. The experience of the French physicians in Algiers, which is referred to in a subsequent page, points to the climate of that city also, as one of great promise in the treatment of phthisis.

The value of cod-liver oil as a remedy in consumption is now so fully admitted, that it is unnecessary for me to do more than point out, how very favourable an opportunity a residence in such mild climates, as predispose but little to the disease in question, affords for a steady perseverance in the use of this medicine. It is to be met with at most of the large continental towns; but the price is often exorbitant, and the supply uncertain. A supply in a stone bottle might be taken by the traveller from England.

BRONCHITIS,

With or without emphysema, as well as inflammations of the larynx and trachea in their chronic forms, constitute a large class of cases in which relief may be most confidently anticipated from change of climate. They are, indeed, essentially diseases of cold, damp, variable climates. Most travellers who have at all turned their attention to the subject, must have been struck with the infrequency of chronic chest affections in the milder

parts of southern Europe. In churches and other places where large numbers of people are congregated, it is quite unusual to hear any coughing; and this is the case even among the poor, and during those pauses in the sermons when the attention to the preacher is for the moment suspended. I have repeatedly noticed this circumstance, because, so far as it goes, it is a useful indication, and offers a remarkable contrast to what occurs in England. It furnishes no argument, however, as to the lesser frequency of the more acute affections of the chest; and these, when of an idiopathic kind, are, there is reason to believe, as common nearly as with us; certainly they are as severe, and often much more rapid in their course.

Of the many persons whose health and comfort are so seriously interfered with in England by an habitual winter cough, some would require to leave this country towards the end of autumn. Others experience no serious impediment to their breathing until after Christmas, or until the spring is approaching; and these might undertake a short journey of two or four months, with a view of escaping what is to them the most trying part of the year.

Travelling in well chosen parts is no longer the formidable affair it used to be. With ordinary prudence many pulmonary invalids may, if it is proper for them to go out of doors at all, leave this country with safety in the depth of winter. The journey to Lyons, and thence to Marseilles, by railway and steam-boat, may be made with ease in

three or four days. Nothing of the kind can be more comfortable than the French railway-carriages; and, in winter, they are amply supplied with metal feet-warmers, which are frequently renewed, and keep up a good temperature within in cold weather. Arrived at Marseilles, steam may be taken to Nice, Algiers, Corsica, the Balearic Isles, or the Spanish coast; bearing in mind that the Spanish steamers advance every moment further south, whilst the Italian proceed, during the first part of their voyage, northward, round the Gulf of Genoa.

Against any temporary exposure on the road, or those abrupt transitions of temperature, which have sometimes to be encountered in walking through the shaded and sunny parts alternately of southern towns, there are two valuable safeguards—a respirator and an ample well-lined cloak. The former is sometimes objected to on account of its appearance. The cloak, however, is a tolerable substitute when worn in the Spanish fashion. In sunny spots it may be allowed to hang loosely open in front, and whenever the air is colder the right side of the garment should be gathered up in the hand and the fold, or *embozo* as it is called, thrown across the mouth so as to fall down the shoulder of the opposite side. In this way the air is filtered and warmed, almost as effectually as by the respirator; and the experience of ages, in Spain, has proved the adaptability of the garment to the climate. Both these contrivances are equally effectual in excluding from the air-tubes the fine dust which is often annoying in dry countries.

As to the choice of a locality, all that is necessary in a large proportion of cases is to take care that the climate be mild, and then moving about from place to place is sometimes very beneficial. Stubborn colds in England are indeed often cured by mere change of air. When the bronchitis has a strongly pronounced character our choice must be more limited. The hard, irritable, or spasmodic cough with scanty viscid expectoration, requires the humid or sedative class of climates. When it is loose, and the mucous membrane relaxed and largely secreting, the air must be of a bracing or tonic nature. Malaga often agrees well with both classes of cases, and few other places are to be found that promise so much relief in chronic affections of the larynx and windpipe.

But wherever the pulmonary invalid finds himself, he must be prepared to guard against occasional vicissitudes of temperature; and before leaving England he would do well to attend to the advice of Sir James Clark,* and undergo such preliminary treatment as may be necessary, especially taking care that the digestive organs are in a favourable condition.

Under the head of Cadiz will be found some remarks on the advantages to be derived from change of climate in organic affections of the heart, especially those which occur so often and creep on so insidiously with advancing life. The great object in the treatment of such cases being to keep the lungs free from obstruction, a mild winter climate is at

* On Climate.

once indicated. I have had several opportunities of witnessing the beneficial effects of such a change in affections of this kind. In the case of an English nobleman, on whom I was in attendance, the removal from the cold and damp winter air of Milan to that of Venice, which is much milder and drier, was followed by the best results. Similar relief had been experienced in a preceding winter at Santander on leaving the bleak and damp region of Leon.

SPASMODIC ASTHMA

Is generally benefited in a most signal way by change of air; but no rules can be laid down for the choice of locality. Each case of this capricious disease must be considered by itself, and the rule of treatment by climate founded, where it is possible to do so, on the previous experience of the patient.

CHAPTER III.

INDIGESTION.

Indigestion—Change of air often indispensable for its cure—Necessity for choosing the right kind of air—Atonic form—Equestrian journey in Spain and Portugal—Inflammatory and nervous forms—Causes—Pau—The Pyrenees—Diet.

Of all the diseases which the medical practitioner is called on to treat in this country, derangements of the digestive organs are the most common. The explanation of this is to be found in the artificial habits and way of living consequent on a state of high civilization; and in the unceasing toil of brain and energy with which people are accustomed to engage in their various occupations. Combined with this is the predisposing influence of a humid and often relaxing air.

Now, in ascribing the frequency of indigestion in England in some measure to the state of the air, I do not wish to declaim unfairly against our climate. Notwithstanding its

> L'aere gravato, e l'importuna nebbia
> Compressa intorno da rabbiosi venti,

and

E già son quasi di cristallo i fiumi;
E 'n vece dell 'erbetta, per le valli
Non si ved 'altro, che pruine e ghiaccio.

PETRARCA, IL CANZONIERE.

I believe there are few climates to be found so favourable to the encouragement of high mental and bodily activity, and of that energy and steadfastness in pursuit of an object which are so characteristic of the English people. Few also are more conducive to health, when it is possible to live apart from the social influences just mentioned. For, as it has been truly remarked, there is no country in which exercise in the open air, the great preserver of health, can be taken by people in general, on so many days in the year as in England. These advantages, however, are of little avail to the delicate and indisposed, who, often for days together, have no choice between confinement to the house and the imperfect exercise which the carriage affords.

In the simpler forms of indigestion a strict attention to diet, the correction of any faulty habits, and the use of such medicines as the particular case may require, are usually sufficient to remove the affection. But in protracted and confirmed cases, in which the stomach seems to have settled down into the habit of faulty digestion, it will seldom happen that a cure can be accomplished without change of air, and a removal from the scene and circumstances under which the affection has been contracted. And then it may be confidently affirmed, that what no medicines, no prudence in diet, and no following of rules will do at home in the way of cure, may often

be surely and speedily effected by a judicious course of travelling, or simply of change of air.

Judging from the remarkable effects which a few days only, employed in this way, are often seen to produce on long-standing complaints of this kind, I would enjoin no dyspeptic patient to despair, if he can only summon sufficient resolution to leave, for a time, his home, and the cares and anxieties of any pursuits in which he may be engaged. One has often observed persons to whom the act of eating was always a source of misery, from a conviction of the distressing symptoms that would succeed the most simple meal, almost suddenly recover a vigorous digestion from a sojourn in some bracing air, such as that of many parts of England, of Rhenish Germany, central Spain, or Switzerland. They not only gain flesh, and loose the unhappy and despondding tone of mind which had become almost habitual to them, but even lay aside all former rules of prudence, and follow the example of other persons at table. And when abroad they partake, seemingly with impunity, such things as chocolate, salads, oil, pickles, sweets, and those seductive and heterogeneous dishes which the foreign *cuisine* so bountifully supplies. I refer to these gastronomic achievements in illustration merely of the sanative effects produced by change of air upon the disease in question, and not as an example which it is ever desirable to follow; for there can be no doubt that, at all times, the observance of moderation and even abstemiousness constitutes the most prudent course which the dyspeptic can follow.

In the selection of a locality for the cure of indigestion it is necessary to be extremely careful that the character of the air is adapted to the constitution of the patient, and to the particular form of the complaint which his case assumes. Such precaution, indeed, is often even more necessary in this than in other complaints; for it will be found that, in selecting a place of residence for the cure of the latter, the state of the digestive organs is one of the best clues for the direction of our choice.

The forms of the disease here referred to are three; and with a view of facilitating the choice of a locality, a brief outline of the leading symptoms of each is subjoined.

In the atonic form, characterised by want of tone and power in the stomach and system at large, the tongue is moist, pale, and often indented by the teeth; there is usually loss of appetite; the digestion is laborious, and accompanied by a feeling of fulness and oppression after meals, with acidity, heartburn, and eructations. Occasionally there are attacks of headache, giddiness, indistinct vision, and faintness, followed by cold perspirations, and a sense of impending severe illness. To this may be added a general torpor of mind and body.

Winter climates for this form of the complaint should always be mild, and the air bracing and stimulating, cold and damp situations being a fruitful cause of the complaint. Lisbon, Seville, Cadiz, whilst the land winds blow, and nearly the whole Mediterranean coast of Spain, possess good climates.

Granada is a good spring residence. In France, Montpellier, Grasse, and Cannes, may be tried; although the latter has a softer air than the first. In Italy, Nice is the best climate, and the next to it Venice, care being taken in the latter city, when the *bora* wind is blowing, to confine the walks to the sheltered Riva di Schiavoni; and not to venture on the water unless in a well-closed gondola. Florence is colder and damper than Venice. Naples possesses an admirable climate for such cases so long as the wind is in the north; but the frequent and often protracted presence of the relaxing sirocco, which will almost infallibly neutralise any good the land breeze may have effected, throws some doubt upon the propriety of prescribing it as a place of residence. Greece, Algeria, Egypt, also afford good climates; and indeed, a travelling about from place to place will often be much more serviceable in this, and several other complaints, than a continued abode in any one locality.

During the summer a wide choice is open to us. In England the Surrey hills from Reigate to Guildford, the chalky, rather than the sandy, districts being chosen; Tunbridge Wells, Tring, Clifton, Malvern, the Lake country, and many other parts are excellent localities. It is better, however, indeed it is often indispensable, if the affection is of long standing, and the spirits are much depressed, to remove further away from the scene of the busy concerns and anxieties of life; beyond the range of the penny-post, and, if it were possible, of the over-stimulating *Times*. The Rhine country, Switzerland, Savoy, with Aix les Bains for head-quarters,

and the Dauphinese Alps, are all good and very accessible ranging ground abroad.

But if the invalid is a horseman, of an adventurous spirit, and prepared to encounter a little homeliness of fare and accommodation, there is, perhaps, nothing that will give him so large a stock of rude health as an equestrian excursion in a country like Spain or Portugal, where it is the custom to travel on horseback. In the semi-Bedouin life he will thus lead, far away from the luxurious confinement of railway or other carriages, meeting and inhaling the fresh breeze, often perfumed with the aroma of countless herbs, at every step, his fare will be simple, and his bed hard; the latter, sometimes, indeed, not altogether inanimate; but the digestion will be strong and the sleep sound; and for the rest, the Spanish proverb says, "He who sleeps well cares not for fleas;"—"quien duerme bien no le pican las pulgas." Of course, in the cases of persons in delicate health, a good deal of prudence will be necessary in carrying out a ramble of this kind. Fatigue must always be avoided, short stages being chosen until the strength will bear longer ones. Early rising must be practised, and two or more of the mid-day hours devoted to a substantial meal and to the siesta. The buoyancy of spirits and serenity of mind which such excursions encourage, when judiciously managed, are very remarkable.

After a four days' voyage from England, the excursion might be made to commence at Lisbon, where good horses may be hired. Taking the route

by Cintra, Mafra, Torres Vedras, through Estremadura, and the lower Beira, Coimbra and Oporto are reached. Much of the road, or rather track, passes over sandy wastes, studded here and there with balsamic pine woods, or open undulating heaths covered for miles with myrtles. And during the hottest parts of the day, even in the summer, the dry north breeze meets and refreshes the rider, and, whilst it exhilarates, removes all sense of oppression from the exertion. Ample food is also afforded for the mind. The poetry, the history, the church system, the literature of Portugal, are more amply illustrated along the route just indicated, than in any other part of the country; whilst in following it we may tread the ground of the early Peninsular victories of our departed hero.

From Oporto, which may also be made the original starting point, the English steamers usually touching there in the summer, the wine country of the Douro, and the Tras os Montes may be visited, preparatory to a sojourn in the province of the Minho, the garden of Portugal. I hope it may not be out of place to introduce here a short extract from my journal, written on the spot, in description of the surpassingly beautiful country to which it refers.

"The surface of the whole of the Minho province is remarkably varied; rocks, valleys and mountains, rivers, woods and fields, and cheerful villages, continually succeeding each other. And then there is that happy mixture of the rough and the smooth, of the wild and the graceful, which forms one of the

chief charms of landscape. The granite, upon which the soil reposes, sometimes rises up into fantastically crested hills, two or three thousand feet high, or huge masses are strewn in picturesque confusion upon the ground. Countless little streams flow down from these hills, and the result of the moisture in such a climate, upon the decomposed rock are a profusion and exuberance of vegetation, almost beyond conception. The valleys literally overflow with corn, trees spring up in the midst of the crops; and the vine, revelling on every tree, throws its lusty arms above the traveller's head, as if grudging even the narrow space allotted to the roads. And, notwithstanding the crowding and the bad agriculture, everything that grows, quickened by the penetrating sunbeams, seems to come to perfection.

"In more remote parts, the road winds for miles amid a tangled thicket of shrubs; Portugal laurel and arbutus often rising up into trees, various kinds of cotoneaster and cornus, box and holly, of the richest green; giant brooms, heaths, lings, and furze, growing many feet high, and mingled with others of dwarfer growth. These are all relieved by the oaks, chesnuts, and other trees in great variety, which are thrown about upon the hill sides, or among the rocks, just where the landscape gardener would wish to see them."

An eloquent writer concludes a glowing description of the same localities in the following terms:—"His heart must be insensible to external influences who can behold without delight, or quit without regret, such a favoured country Even the stern victors of the

ancient world, little prone to the soft emotions of our nature, were vanquished by the bewitching beauties of the valleys of the Cavado. Upon the banks of that matchless stream they threw down the national eagles, and refused to leave that happy land. They caught the poetic spirit of the people, they called the Lima and the Cavado the rivers of oblivion, and, in a fit of passionate enthusiasm, forgot the ties that bound them to their distant home, and renounced the glories of imperial Italy for the pastoral and peaceful seclusion of the Minho."*

The baths of Caldas de Gerez, lying in a romantic valley which enters that of the Cavado, a most healthy locality among mountains, might be made the resting-place for some days. Numerous excursions may be made from this place among scenery of marvellous beauty, and full of interest in connexion with the events of the Peninsular war, especially the retreat of Soult from Oporto. During the summer season many visitors come here, and provisions are good. The lodgings, however, are apt to be infested with fleas. Braga, Guimaraens, Arcos de Val de Vez, Ponte de Lima, Monçao and Valença, may also be made place of temporary sojourn.

The baths of Taipas, an hour's ride from Guimaraens, are situated in an open, elevated country, possessing a healthy, bracing air. The place is lively and much frequented, and the accommodations are much better than at Gerez, although the scenery is far less attractive. The waters are sul-

* Lord Carnarvon's "Portugal and Galicia."

phurous, and the air agrees well with all cases of dyspepsia in which there is no inflammatory tendency.

Caldas de Vizella, also little more than an hour from Guimaraens, possesses some hot sulphurous springs, which were held in great repute in the time of the Romans, as they are at the present day. The village lies in a valley, surrounded on all sides by hills of graceful, but varied and strongly marked outline. Some of their tops are crested with rugged rocks, and huge boulders sleep, like giant flocks, upon the verdant sides of others, giving a very unusual and picturesque appearance to the landscape. Cultivated fields, intersected by multitudes of trees and vines, fill up the lower ground. The baths, which are situated in the centre of the village, are very numerous, and most of them still possess the tesselated pavement laid down by the Romans. They are found to be very efficacious in obstinate rheumatism and syphilis; but there is an air of discomfort, neglect, and want of cleanliness, about them, as well as in the houses, which the prospect of returning health alone can render tolerable. The air, it may be observed, is somewhat relaxing and oppressive, and quite unfitted for the kind of dyspepsia of which we are now speaking, although it would prove serviceable in the inflammatory form of the complaint. Towards the end of September there is risk of malarious fevers.

Those who have time at command might extend their journey into Galicia, taking the steamer at Vigo or Corunna, or into the Asturias and Old Cas-

tile, bearing in mind that, along the coast country, the nearer you approach to France, the more relaxing, generally speaking, does the air become.

I have said this much on the subject of the bracing climates, because it is found that they are the most generally beneficial in the majority of the cases of deranged stomach, even in such as are not of a purely atonic kind. These also are the climates which often act like a charm in the cure of passive congestions of the intestinal mucous membrane.

In the inflammatory form of dyspepsia most of the following symptoms are more or less present. The tongue is red, particularly towards the apex, its surface sometimes dry and polished, or wrinkled, and in those cases where there is a corresponding derangement of the liver, a longitudinal brown streak runs down the centre, whilst the sides are red. This latter state is most apparent before taking food in the morning. Small aphthous ulcers, which are extremely sore, often form upon the sides of the tongue or the mucous membrane of the lips or cheeks. The papillæ at the tip of the tongue are highly injected, and convey a smarting sensation on coming into contact with any stimulating food. In addition, there are pain on pressure, and a feeling of heat, at the pit of the stomach; a dry and irritable skin, thirst, frontal headache, great irritability of temper, and low desponding spirits.

Climates of a soothing, relaxing kind are indicated in this form of the complaint until the inflammatory character is subdued, after which a

somewhat more bracing air agrees better. In England, the Hampshire coast, Cornwall, South Devonshire, and the Channel Islands, or, in the neighbourhood of London, Tottenham may be tried; and on the continent, Brittany and the whole west coast of France, and the western half of the Pyrenees. Brest, Nantes, Bordeaux, Bayonne, and Pau, are the most agreeable places of residence for the winter, and in the summer Croisic, near the mouth of the Loire, and Royan, near that of the Garonne, la Teste, Biarritz, and Bagneres de Bigorre. The latter five are all accessible from the previously mentioned places, and are much frequented during the bathing season. St. Sebastian and Santander are the most eligible localities in Spain, and Rome in Italy.

In nervous dyspepsia there are a craving appetite and a feeling of sinking, the latter being unrelieved probably by taking food; headache intense but local, and often centred in the eyeball, vague nervous feelings passing down the nose or the arms, or settling in that portion of the sciatic nerve which corresponds with the glutæi muscles, a sense of breathlessness, and sometimes palpitation and choked utterance; pale copious urine, exhibiting upon its surface, shortly after being passed, an iridescent film of phosphates, a pallid or unaltered tongue, flatulency, uneven spirits, and a remarkable susceptibility in this country of the east wind.

My own experience of the effects of climates on nervous dyspepsia leads me to concur in the soundness of Sir James Clark's advice to select one of a medium character, neither too relaxing nor too sti-

mulating, as best adapted to the treatment of such affections. And, accordingly, as the particular case may partake more of the inflammatory or atonic form of the complaint, so should the choice of locality incline in favour of one that is somewhat dry or humid. A calm atmosphere is very desirable. Indeed all those places which are frequently visited by strong winds, from whatever quarter they may come, are almost sure to prove hurtful; and so highly sensitive do such patients often become, that they are able to discover, by their symptoms alone, the approach or departure of an irritating wind.

It is in this form of dyspepsia that travelling from place to place proves particularly beneficial. To the man of business, a suburban residence in a cheerful locality, such as Sydenham, &c., and a daily ride to town in the open air when the weather permits are to be recommended. During the summer our own country or the Rhine may be explored, and in the winter many parts of the Peninsula are good; but the preference may be given to Cadiz, Seville, Lisbon, Malaga, and Barcelona; or the more soothing, although still mild, air of the north, along some portion of the coast from Vigo to Santander or Bilbao, may be tried. I have known the air of Cannes in the south of France, a town the attractions of which cannot be too highly extolled to those who admire a graceful combination of sea and mountains in scenery, prove very serviceable in one aggravated case of the complaint in question. The climate, being decidedly less dry than that of Nice, from which it is but four hours' distant, approaches in character to that medium condition, of which

mention has been just now made. The country around Cannes is the only part of France, with the exception of Hyères, in which the orange can be successfully cultivated for commercial purposes. There are good opportunities for boating, walking, and driving, and the beauty of the scenery has led to the erection of several English villas; but the accommodation for strangers, although good, is limited. I believe, however, that lately several new houses have been built in consequence of the increasing favour it has found with invalids. The only objection I ever heard to Cannes was the badness of its water; but not having been aware of the circumstance at the time of my visit, which extended over several days, although drinking water daily, I made no local inquiries on the subject.

It is worthy of remark, that persons who suffer from this kind of dyspepsia, sometimes experience a marked alleviation of all their symptoms during a period of protracted rainy weather; whereas a dry and sunny or frosty atmosphere often produces in the same individuals a directly contrary effect.

In all cases of this, as in nervous affections generally, the spring is the most trying time of the year; and in whatever country the patient may find himself at that season, he should adopt a most regulated and unstimulating diet, rejecting wines and other things which may have agreed perfectly well with him in the winter. He should be careful also to avoid exposure to the direct rays of the sun, or to the dry winds that are then apt to prevail, more or less, almost everywhere north of the tropics. All

Spanish physicians, as do those indeed of southern Europe generally, insist strongly on the necessity of attending to these precautions; and experience has taught the inhabitants at large in temperate or warm climates, to choose the shady side of the street in their walks, during the spring months.

For those who have passed the winter in Italy, Rome is undoubtedly the best of the more frequented places for a spring residence. Turin also has been spoken of in favourable terms, as a temporary abode, when the east winds, which prevail at Nice in March and April, render a more prolonged stay at the latter undesirable. But I am unable, from what I have seen, to concur in the recommendation of its claims. During a spring which I spent there the air was particularly irritating, and I had the opportunity of observing that many diseases underwent a marked exacerbation, a result which I understood to be one of ordinary occurrence. Skin diseases, such as the exanthemata, psoriasis diffusa, &c., were then common, as was the case also with active inflammations of the chest. The spring climate, moreover, is remarkably inconstant; it being no unusual thing for a day of severe winter cold, attended perhaps with a fall of snow, to succeed one that was warm and sunny.

Judging from what I have learned from French physicians, as well as from observation of the situation of Grasse, I should be inclined to prefer that town to Turin, as possessing a more soothing spring climate; in addition to which, it is even more accessible from Nice.

But there are few places to be found on the continent possessing so calm and soothing a spring climate as Pau. This is, therefore, emphatically, the locality which should be chosen as a temporary spring residence, whenever the distance opposes no serious objection, not only by those persons who are subject to nervous or inflammatory dyspepsia, but in every other case, where the irritating air of spring, as it occurs in most countries, is found to disagree. The situation of Pau is almost unique, in regard to the effects produced on its climate by the physical disposition of the surrounding country, which effectually shelters it, even in the spring, from high winds. Still the situation is by no means confined, but rather the contrary. Seated on a terrace of deep sand and gravel, which drains away from the surface, in a remarkably short time, all the rain that falls, it looks down upon several leagues of open country, which stretches away towards the foot of the Pyrenees, and furnishes an admirable foreground and middle distance to one of the most sublime and comprehensive views of a mountain range that can be found in Europe. An English church, English physicians, and an unlimited amount of accommodation, suited to the means of all classes of visitors, are further advantages which Pau possesses. Railway communication is now in progress of formation; and so soon as the great line from Bordeaux to Thoulouse and Marseilles is completed, it will be difficult to find anywhere else so good an opportunity, as at Pau, of escaping the irritating spring, not only of Provence and Italy, but of the Mediterranean coast generally. Invalids might arrive

in March, when, although the nights and early mornings are cold, still they are calm. The utmost care must be taken, however, on the road, to avoid exposure to the cold winds that will have to be encountered in traversing the plains of Provence and Languedoc. In June, sensitive persons will find the heat becoming oppressive; and then excellent roads will lead them, in a few hours, to a variety of cool and verdurous retreats among the Pyrenees, in almost all of which, French civilization has outstepped itself in ministering to the comfort and recreation of visitors. Here, at these mineral springs, the summer may be passed.

In thus passing in review the three forms of dyspepsia, which the experience of the profession has usually recognised, it should be further observed that, although cases of the affection often occur in the unmixed form as they have been described, it happens more frequently that two of the varieties are combined in different degrees. The nervous and atonic or the nervous and inflammatory may be so combined; and occasionally we find in susceptible constitutions that, the same individual experiences an attack, now of the nervous and subsequently of one of the other forms. These peculiarities are mainly due, I believe (and the opinion is founded on a close observation of such cases), to errors of diet or regimen, as the immediate cause of the dyspepsia, and to the peculiar condition of the atmosphere existing at the time, as determining the particular type of the disease which the individual case shall assume. It will be the part of the physician in such cases to use a nice discrimination in

ascertaining to which of these types the symptoms, as they come before him, most decidedly incline, in order that the trial of a suitable climate may be recommended with a fair prospect of advantage.

In regard to diet, it may be observed that in all the forms of dyspepsia, moderation as to the quantity of food and the past experience of his own case will be the best guides for each patient. It is, at the same time, only prudent to relax some of the discipline of rules, and to divest himself of the idea that he is to be always an invalid. Too rigid a restriction to a limited and settled diet is apt to fret the mind when at table with others, and to coddle the stomach without corresponding advantage. Still, there are certain insinuating productions of the foreign *cuisine*, such as foies gras, truffles, sardines en huile, some kinds of galantine, &c., which should at all times be avoided. A small quantity of wine, when it is good, which is by no means always the case abroad, need not be avoided, unless when travelling or when it is known to disagree. Of the Spanish wines, there are none which agree so well in the complaint we are considering as the fragrant Romera, grown in the Serrania of Ronda, and the light Mauzanilla, produced on the sandy hillocks of San Lucar. If the latter wine were better known in this country it would probably be extensively prescribed. It is very dry and even slightly bitter. It must be had, however, as it is drunk at Seville, and not highly brandied, as is the case with nearly all the Peninsular wines that are sent to this country.

CHAPTER IV.

Nervous affections—Dropsy and urinary diseases—Their comparative infrequency in Spain and Portugal—Rheumatism—Gout—Debility during childhood—Struma—Advanced life—Anemia, cachexia, convalescence—Uterine torpor—Delicacy of constitution—Mental exhaustion and worry.

In various nervous affections, particularly those to which the term functional is usually applied, and which partake of the character of hysteria or hypochondriasis, the advantages of change of air and travelling have long been recognized. They are the best of all remedies for nervous loss of voice. The same remark applies in the case of those persons who possess a highly excitable and susceptible nervous system. In regard to choice of climate it matters little, so long as there is opportunity for amusing the mind, and the air is neither too dry nor too moist.

In some forms of chronic paralysis also, where there is an absence of all active symptoms and it is an object to improve the general health, a mild and moderately bracing air is often of great use. Places like Rome and Pisa, which possess a sedative relaxing air, should be avoided, as tending to favour con-

gestion; and the exciting air of excessively dry regions, such as Provence and Alicante, as apt to over stimulate and exhaust the nervous power.

Neuralgia and headache of a periodic character, depending on the influence of marsh miasmata, as well as intermittent diseases generally, rarely admit of effectual cure, until after removal from the locality in which the affection was acquired.

DROPSY, CALCULUS, AND OTHER URINARY DISEASES.

Visits to the hospitals in those parts of the Peninsular where the climate is most favourable to health and longevity, those for instance in which the thermometric range is moderate and the rapid transitions from cold to heat do not exist, show, in general, that the prevalence of some diseases, which are both common and dangerous in our own country, is very limited in extent. Among these may be mentioned various forms of the affections above named. I have repeatedly met with Spanish practitioners who had never seen a case of diabetes, and the infrequent occurrence of cases of dropsy formed an equally remarkable part of their experience; the more obvious symptoms in both these affections being such as hardly to permit a suspicion on the score of faulty diagnosis.

I may state in corroboration of the experience of these gentlemen, that, in the great hospital of San José at Valencia, I tested on different occasions the urine of eighty patients, taken indiscriminately, with nitric acid and sometimes with heat in addi-

tion, without obtaining, in a single case, an albuminous precipitate. The examination was repeated, on a smaller scale, at other hospitals in different parts of the country, but, excepting at Carthagena, where I saw well marked examples of Bright's disease, always with the same result.

The freedom with which the exhaling surfaces of the skin and of the bronchial mucous membrane are enabled, habitually, to discharge their functions in mild and dry atmospheres, plays an important part, doubtless, in the exemption from those visceral lesions and disturbed functions upon which the class of diseases in question mainly depend. And this comparative immunity may well suggest to the medical practitioner in this country, the propriety of recommending to persons so afflicted a sojourn in some climate that possesses the above character.

The dropsy which results from organic affections of the heart and liver presents itself, so usually, as one of the closing events in a protracted illness, the consequence of mechanical and insurmountable difficulties in the way of the circulation, that the idea of a journey is generally out of the question in such cases. But it is not so with renal dropsy in its chronic form. Here the onward progress of the disease is often suspended for many years, and in some cases a permanent cure is effected even after a protracted duration of the complaint. Rational treatment in such cases keeps in view two principal objects: one to improve and help the process of nutrition, the other to maintain an actively transpiring state of the skin. These objects, it cannot be denied,

are much more likely to be effectually promoted in a climate which, from its mildness and dryness, permits the patient to take exercise and inhale the out-of-door air for several hours daily, during the winter, than in one like our own, in which the most watchful care is necessary to guard him against atmospheric vicissitudes. Nor is experience wanting to add force to these views. It is well known moreover, that one effect of a warm climate is to lighten the labour of the kidneys and increase that of the skin.

In regard to calculous diseases and urinary deposits in general, the climate of some localities is admitted to be little favourable to their occurrence. In most parts of the Mediterranean coast of Spain and in the dry regions of the interior, I have availed myself of such opportunities as came within my reach, with the view of obtaining information on this subject. So far as the testimony of medical men with whom I conversed and an inspection of the urine of patients in the hospitals, are concerned, the result was almost invariably in proof of the infrequency of these diseases. Evidence of this kind is deserving of attention only, it is true, in the absence of rigid statistics: such information however is rarely to be obtained in the Peninsula. At the hospital of San José, at Lisbon, there were received into the wards, during the two years ending June, 1847, 25,673 patients. Of these there were but four cases of calculus and but one of diabetes.* A similar infrequency of calculous diseases has been observed

* Relatorio e Contas do Hospital de S. José, Lisboa, 1846-47.

elsewhere in the south of Europe. Thus Vacca, quoted by Sir James Clark, who operated in a large number of such cases, never found a Pisan among them. My own inquiries at Pisa elicited a corroboration of the experience of Vacca.

Diet, there is good reason to believe, is often less instrumental in the production of diseases of this kind than atmospheric and perhaps certain other influences connected with locality. At page 7, a case has been already detailed in which a lithic acid deposit, occurring at Genoa, suddenly ceased to form on removing to Albenga, and re-appeared on returning to the former place; no variation having been made in diet or regimen. The judicious employment of certain mineral waters, such as those of Vichy, will often prove of the greatest service, in connexion with climate, in the treatment of these cases.

RHEUMATISM

Is one of the diseases that are most strikingly benefited by removal to a mild climate. Little else is necessary, in the selection of a locality, than to choose one, the winter temperature of which, besides being mild, is little liable to sudden variation. The humid or dry nature of the air may be chosen in reference to the constitution of the patient, and the character of any attendant bronchitis or dyspepsia. Cadiz, Malaga, Alicante, Algiers, Egypt, Rome, Nice, are all good places, the precaution just mentioned being held in view in deciding between them.

During the summer the treatment of obstinate

rheumatism possesses a most valuable assistant to climate in various mineral springs, of some of which a short account will be found in subsequent pages. It should be borne in mind, however, in connexion with summer climates, that this season is sometimes more prolific of rheumatism than colder ones. This is more particularly the case in mountainous situations near the sea, especially when it happens that a ravine opens in the immediate neighbourhood. In such localities, descending currents of cool air from the mountains, alternating with warm moist breezes from the sea, or contrasting with the accumulated heat of sheltered spots, give rise to sudden and frequent changes of temperature; whilst the barometric oscillations are scarcely less decided.

Genoa furnishes a remarkable illustration of the truth of these remarks. The most prevalent summer diseases which I witnessed in the hospital of that city—indeed they constituted the great majority of the cases admitted—were recent rheumatisms and chest complaints resulting from atmospheric causes. So common are such affections at Genoa that they furnish so large a proportion as 58 per cent. of all the medical cases received into the hospital.* Lisbon, during the summer, is by no means exempt from a less degree of the same objection. The practical inference for the invalid when resident in such places is, that he should be on his guard against exposure to sudden alternations of temperature, and not lay aside flannel clothing under the impression that it

* Sulla Topografia Medica di Genova, del Dottore Ettore Costa. Genova, 1846.

is unnecessary in more southern latitudes than his own.

GOUT.

During the intervals of the paroxysms of gout or the existence of some lingering attack of the disease, few remedial measures are more efficacious, either in themselves or in assisting the effect of medicines, than removal to a warm, dry, and bracing air. Even in our own climate those persons who are considered to be "martyrs to the gout" usually enjoy a comparative immunity from the disease during the two or three warm months of summer. In long-standing cases of this severe complaint there is always very considerable debility of constitution, which becomes, after a time, not only an effect but a cause of the continuance of the disease. Whatever, therefore, tends to improve the general health, increases so far the power of prolonging the intervals between the attacks and of rendering them less severe when they do occur. Moreover, in such climates as those of Nice, or Montpellier, or several parts of southern Spain, which are as good as any for a winter residence, the disease in question is comparatively rare. Removal from home furnishes, also, an easy opportunity for correcting whatever may be most faulty in the habits; whether dinner parties or too close a devotion to business, or both, constitute the errors in the particular case. Before leaving home the diet and regimen to be followed should be laid down by the medical attendant. In inveterate cases the

long accustomed stimulus must not be abandoned; wine, however, is the only form in which it should be taken. In Spain, the wines of Andalucia, being mostly dry and tonic, are well adapted for the gouty stomach, especially such as are drunk by the natives, which contain very much less spirit than those that find their way to this country. The lighter kinds of French wines are also good; whilst those of Italy, with the exception of some of the Piedmontese wines, are so generally ill made, being either sour or sweet, or both combined, and usually very new, that they should be carefully avoided.

DEBILITY DURING CHILDHOOD—STRUMA.

Debility of constitution during the period of childhood is intimately connected, not unfrequently, with what has been termed the strumous diathesis or habit of body. That there is an hereditary predisposition of a very decided nature to this state of the system does not admit of doubt. But it is equally certain that, under favourable circumstances and prudent management, the dormant tendencies to disease, which form the leading feature of the strumous constitution, are never awakened in multitudes of cases where they exist. On the other hand, they may be generated, under the influence of favouring causes, in another set of cases that betray no indications of the existence of any such original predisposition.

In no country are strumous affections and pulmonary consumption, which is very closely related

to them, so common as in England. The chilly and damp atmosphere, and the clouded sky, which excludes so much of the influence of that important vital stimulus the sun light, are among the causes of this prevalence. Other causes are to be found in the stagnant condition of the air which usually exists in localities where there is much humidity and an absence of sun, so that a very imperfect ventilation is obtained in streets and houses; and in the impediments which the state of the weather so often opposes to natural out-of-door exercise. The fact that such affections rarely display themselves for the first time, whilst long standing cases almost invariably experience a great change for the better, during the summer, even in England, is corroborative of the influence of the above-mentioned causes.

That the cause is a something depending chiefly on the air we breathe and the other elements of climate, seems to be susceptible of proof in many ways, if, indeed, further proof on a point so generally admitted were needed. It is found that persons coming from a warm climate, in which such complaints do not exist, become attacked by them in a cold and humid country. The same thing happens to the lower animals, so that, as is well known, enlarged glands and phthisis can be produced in them almost at will. Again, in the dry climate of Spain, and especially in the warmer parts of the country, strumous affections are extremely rare. Examinations made in hospitals, prisons, &c., where a large number of people may be inspected in a

short time, forcibly confirm this remark, both as to the existence of recent and the scars of old strumous affections. Nevertheless, when the climate is deprived of its natural advantages, the immunity of the inhabitants, even there, at once ceases; and a colony of afflicted beings may be created in the midst of a healthy population.

In the Inclusa or foundling hospital of Madrid, which I visited in 1849, various forms of scrofulous disease were more prevalent than in any public institution that I have visited in England. The children were of all ages, the nursery crowded in the extreme; numerous infants and the nurses being all huddled together. In one of the work-rooms, out of twenty-eight children two only were exempt from visible marks of the disease. The rest were all suffering from severe forms of strumous ophthalmia, glandular swellings of the neck, abscesses, porrigo, tumid abdomen, wasted limbs, &c. The building, near the Gate of Ambassadors, is in one of the lowest and most confined parts of the town, and, contrary to the almost universal custom in Spain, the rooms are very low, are extremely ill ventilated and dark, and have that peculiar close smell which may be found in ill-contrived workhouses. In addition, the children rarely leave the building, but take such exercise as they may in the small court-yard, which is pent in by the buildings of the institution.

The tendency of the foregoing remarks is to point to the fact that, a faulty regimen may engender strumous diseases in families where an hereditary

taint is not known to exist, and to the one sovereign remedy by which the constitution of those children, in whom there is a predisposition to such affections, may be built up anew, as it were, during that trying period of life in which the development and growth of the system are going on. This remedy is some mild winter climate. A climate in which there will be the opportunity to live several hours daily and take exercise out of doors ; one in which the warm bright suns keep up a constant circulation in the air, and afford a full supply of the vivifying light. There can be no doubt that the treatment of many cases, which become subsequently pulmonary consumption, would have commenced most appropriately at this period of childhood. I have already quoted the fact mentioned by Louis, that the seventeenth child in a family, of which the sixteen previous children had died of pulmonary consumption, was sent away at a tender age to a distant country and escaped the fatal malady.

The selection of a locality for a winter residence should be made in favour of some situation near the sea-side. At any rate air of this kind which contains salt and, doubtless, other emanations from the water, such as bromine and iodine, is very beneficial in a large proportion of such cases. Nice and Spezzia, on the Gulf of Genoa, the latter of which possesses a softer air than the former, are good Italian places of residence in some such cases ; and this is the part of Italy in which political restrictions are least vexatious. Rome is good for a spring residence. At these places English society and

masters are to be had. The want of the latter would be to some extent an objection, probably, to the southern coast of Spain, which otherwise offers some admirable localities.*

The temperament of the child, whether inclining most to the sanguine or the lymphatic, must direct the choice in favour of a soothing or a more bracing air; although as a general rule the latter will be preferable.

No delicate child should remain in Italy during the summer. Aix les Bains, in Savoy, is the best of the more accessible places of summer residence. The warmer parts of Spain must, in like manner, be avoided; but there is a choice of many good places of residence for this season, along the whole of the northern coast from Corunna to San Sebastian, several of which may be reached by steamer from the south.

ADVANCING AGE.

The power to resist the effects of cold is well known to bear a pretty close relation to the amount of vigour existing in the constitution. Hence it is that infants, delicate persons, and those who are approaching the grand climacteric, are observed, not unfrequently, to loose flesh and become more obnoxious to the attacks of disease as the winter comes on. As regards persons of riper years, the observation, *inimicior senibus hyems*, is as true in the

* The chaplain at Malaga, I believe, is in the habit of taking a certain number of pupils.

present as in the classical days in which it was written ; only that the statement now is susceptible of statistical proof.

Sometimes it happens that towards the age of sixty, especially in persons who have engaged much in severe mental pursuits, the infirmities of growing years rather suddenly and prematurely make themselves sensible ; and a train of symptoms, indicative of a failure in the ordinary mental and bodily vigour, appears. The face becomes pallid or sallow and thin ; weariness follows slight exertion, the sleep is disturbed and unrefreshing, the digestion weak, the spirits depressed and uncertain ; the appetite fails, emaciation proceeds, the memory is impaired, and perhaps a slight dropsical swelling appears in the face or about the ankles. These symptoms, known in popular language as a "breaking up of the constitution," are familiar to the profession under the term "climacteric decay."

Relaxation from business, change of scene, and one or two winters passed in a mild climate offer the best, and often, indeed, the only effectual means of arresting the progress of decay and renovating the constitution, so that it may enter upon the enjoyment of a fresh series of years.

The advantages, in favour of prolongation of life, that are promised to elderly persons by wintering in a warm climate, may be gathered from a perusal of the tables of Quetelet and Dr. Day. The latter physician,* calculating from so large a number as 53,048, which represented the mortality in England

* Diseases of Advanced Life, p. 36.

and Wales during five years, among persons of the age of sixty and upwards, found that in December, which is the most fatal month, the mortality was 127, whilst in July, the least fatal month, it was only 64½. The numbers in the intermediate months corresponded pretty closely with the temperature of the latter. Similar results presented themselves in a large public institution, of which I had the medical charge during five years. The mortality among the old and the very young invariably acquired a sudden increase with the first frosts of winter. On the other hand, some proofs of the remarkable longevity to which the inhabitants attain in certain warmer latitudes may be found in the chapter on Cadiz, page 145, and Malaga, page 168.

In all cases of anæmia and cachexia, whether arising from general or specific causes, or the result of irregular habits and the abuse of mercury, change of air is highly beneficial, both in itself and in favouring the operation of other remedial measures. The same may be said, in terms of still higher commendation, of its effects in convalescence, when fairly established after fevers and acute diseases in general. But, in all such cases, discrimination and judgment are necessary in the selection of a proper locality; and in deciding whether or not the patient is sufficiently recovered from the active symptoms of his malady to undertake a journey.

The good effects of spending one or two winters in some mild European climate, preparatory to a per-

manent residence in England, are well known in the case of persons whose health has become impaired after passing many years in tropical climates.

It may not be out of place to direct attention, in this place, to the fact, that a very remarkable activity of the uterine system is generally experienced by persons who migrate to a warmer climate. In Algiers, I was informed by Dr. Foley, the physician to the Civil Hospital of that town, that French women, on coming to Algeria, are more prolific than in their own country; and there is good reason to believe, that, in some cases of unfruitfulness connected with torpor, a visit to some such climate would be attended with the desired advantage.*

The freedom from restraint that may be enjoyed during the winter, in several parts of southern Europe, by persons of delicate and susceptible constitutions, is a great temptation to remove there. To many such persons each winter in our own climate, brings a series of minor trials and afflictions. Ordinary catarrhs, sore throat, tooth or earache, dyspepsia, partial rheumatisms, succeed each other, despite of constant nursing; so that the whole season becomes to them a source of alternate relapse and convalescence.

Two or three months spent in travelling will prove to be the best possible restorative in cases in

* See the chapter on Algiers.

which the mind has been harassed by the cares of business, exhausted by intense application, or overwhelmed by some domestic calamity. During the winter and spring, the Moorish cities of southern Spain and Algiers may be visited. The object here is to distract and amuse the mind by new and pleasing associations. Perhaps no country offers so many advantages for the attainment of this end as Italy. If the traveller possesses a moderate share of health his visit may be made in the summer, which is, in many respects, the preferable season for the purpose. Rome, however, must then be avoided. It will always be prudent to shun the mid-day sun, to take the siesta, and to live abstemiously.

In the enumeration that has now been made of the principal forms of deranged health in which change of climate promises relief or cure, the list has been by no means exhausted. "Indeed it would be difficult," as Sir James Clark observes, "to point out the chronic complaint, or the disordered state of health, which may not be ameliorated by the judicious adoption of such a measure."

In conclusion, let it be repeated, that those persons who have long been subject to one or other of the affections referred to in the preceding pages, and who have failed to test the remedial merits of change of climate, have neglected a most valuable opportunity of regaining their health or relieving their sufferings.

CHAPTER V.

General hints for invalid travellers—Choice of the right climate—Exaggerated expectations—The journey—Prevention of sea sickness—Choice of apartments—Musquitoes—Acclimatization.

The principal diseases, the cure or alleviation of which may be promoted by change of air, have thus been pointed out, as fully as the limits of the present publication would admit. I propose now, before describing individual climates, to put together, in a concise form, some rules and directions on topics that will be found to be of general interest to persons who are about to travel in search of health.

I. The cardinal point to be settled, before all others, on preparing to go from home, is to fix on the right climate. This must be calculated, not only to cure the particular malady, but be suited to the constitution of the invalid. Everything depends on this being done judiciously; and, therefore, attention is now again directed to its importance. Some climates, however beneficial in the treatment of some disorders, are more hurtful in others, perhaps than that which is about to be left. It is with them, as it is with other remedies, for the relief of disease.

Many medicines, for instance, are classed together under some one general term, because they possess certain features in common. But their compositions and direct effects are very various; and whether they are to produce good or harm, when prescribed, depends on the amount of skill and knowledge of their properties brought to bear, in preferring the one to the other, according to the indications in the particular case.

When, therefore, we find a person who is about to travel for his health, directed simply to seek a warm climate, and left to choose very much for himself, whether he should go to Rome or Nice, Pau or Montpellier, Lisbon or Malaga, Madeira or Egypt, localities between which the utmost difference exists as regards the properties of their climates, one is quite prepared to anticipate for him a share of that disappointment which, in effect, is perpetually occurring. It happens, not unfrequently, to the physician who is living abroad, to come into contact with invalids, who, after having wintered with little benefit in various places, had, at length, after many wanderings, found a climate exactly suited to the requirements of their case. The knowledge of such a climate might, very probably, have been secured to them in the first instance, without the necessity of a long personal experience.

II. We must not expect too much from change of climate. It is a common, but erroneous, belief, that the mere removal to a warmer latitude will at once restore to health, and absolve from the necessity of employing any portion of that care and precaution

which were observed before leaving home. The imagination has been dwelling, perhaps, on the perpetual sunshine, and blue sky, and unruffled air, with which poets are apt to associate the idea of southern Europe; and, to a certain extent, this is quite right. Indeed, a fair share of hope is most desirable, and most fully justified, by past experience; but exaggerated expectation in this, as in other things, is sure to lead to disappointment. It must be remembered that no climate possesses every good quality which, in theory, we should desire for it; if so, even the allotted course of mortality might be arrested. And, sometimes, the advantage which the climate to be sought possesses over that which is left, is of a negative kind only.

But, we may fairly entertain the conviction that change of climate, when judiciously prescribed and judiciously made use of by the patient, will, of itself, cure some diseases; provide a good opportunity for the employment of medicine in others; allow a susceptible period of life to pass away unassailed by a threatening malady; and, when it cannot accomplish these ends will often postpone, more or less indefinitely, the advance of a fatal disease.

It may happen also, that the season which has been chosen for the experiment of going abroad will turn out to be an exceptionally bad one; for it certainly does occur that a climate, usually calm and mild, becomes sometimes very unlike itself. The same kind of departure from what otherwise would amount to a law, happens occasionally throughout nature. Winter sometimes re-appears in June;

trees that had flourished for many years are at length destroyed, perhaps by an unwonted frost; and birds of passage, migrating at the usual time from southern regions, are sometimes arrested in their flight, and destroyed by protracted cold in the countries to which they are hastening. The occurrence of an occasional season of this kind ought not therefore to lead to discouragement.

Nor must an opinion be formed too hastily that a new climate will disagree. The effects of fatigue on the journey or voyage, and of change of diet and air, sometimes a feeling of isolation or an unfavourable state of the weather, may give rise to some misgivings for the first few days, which further trial will prove to be premature or unfounded. Many persons are met with abroad whose cases afford illustration of this point. In addition to this, the good effects of a course of climate or travelling, like a course of mineral waters, do not in some cases fully show themselves until after the invalid has returned to his own home.

III. The journey. Travellers who are good sailors may prefer to go by sea when the south of Europe is to be visited; steamers leaving England for all the principal ports of the Mediterranean. The more direct route by Marseilles, which, by means of railway and steam-boats, takes us to the Mediterranean in three days, is preferable in cases where there is an objection to the sea; the coasting voyage to Italy or Spain from this port being so broken by intervals of repose, whilst calling at dif-

ferent harbours, that the amount of illness is often slight.

Much may be done to diminish the chance of suffering from sea-sickness. For a few days previous to the voyage the diet should be simple and nourishing, and free from all those articles which are apt to create what is popularly known as "biliousness." Some food of a sustaining kind, such as meat, should be taken a couple or three hours before going to sea, previous fasting predisposing much to sickness. Once on board, a place should be chosen near the centre of the vessel, on deck if the weather permits and the voyage is short, if not in a berth. And it is necessary to be prepared at once to pass the time whenever the sea is troubled in steadfastly maintaining the recumbent posture; lying with the head as low as can conveniently be borne. However irksome this may be, the question is, whether or not it is better than sickness; and it may be rendered more tolerable by means of books, which, moreover, lead the mind away from dwelling on the movements of the vessel. From time to time, comparatively smooth water will be reached in the Mediterranean, when the posture may be changed. A feeling of impending faintness or sickness may often be checked by taking a small quantity of nourishment, such as a sandwich, or a glass of sherry and a biscuit at the moment when the sensation is approaching. A girdle tried tightly round the waist is certainly of use.

Whether these measures are to succeed or not

will depend very much on the perseverance with which they are carried out. Certain it is, however, that they will often prove a specific, as the author has had repeated opportunities of observing.

Land journeys, unless where railroads or posting are available, generally make more demands on the strength and endurance of the invalid traveller. "Diligence" travelling is fatiguing in Spain or Italy, because the distances are often long and the roads bad. It is always possible, however, where there is a road, to hire a special vehicle for the journey, so as to secure a resting-place for the night, as well as regularity in the time of taking meals, and the opportunity of the mid-day siesta.

Horse-back travelling is practicable only in Spain or Portugal, and, indeed, is indispensable in those countries if we would leave the beaten track. It can, however, hardly be recommended to the invalid traveller, unless he can secure a good animal, and is a sufficiently practised horseman.

Spare diet, abstinence from wine, mid-day repose wherever it is practicable, the use of some mild aperient, which is often absolutely necessary, and a warm bath, or warm sponging after a fatiguing journey, offer the best means of counteracting the irritating effects which travelling sometimes occasions. Whenever the weather is warm, the water for the bath or sponging should be of a temperature somewhat higher than that of the external air.

IV. On arriving at any place where the winter is to be passed, no time should be lost in securing suitable lodgings. If possible it is better to do this

beforehand through some resident. Both the bed and sitting-rooms must have a south aspect and an uninterrupted exposure to the sun. This is indispensable, when the chest is delicate; and, if possible, the street should not be narrow. In regard to Spain, apartments possessing much luxury are seldom to be commanded for any large number of visitors; unless in Madrid or Lisbon, Barcelona, Malaga, Seville, or Cadiz; but in most places they may easily be rendered comfortable. An air cushion or two, list and sandbags for the doors and windows, and rush-mats or carpets for the paved floors are easily attainable. If there is no fireplace, one may be often extemporised at a small cost by some constructive artizan, as I have repeatedly seen done; or a stove may be procured. In such places as Malaga, fires will be necessary for a few days only; still it is always desirable to have the opportunity of making one.

The brasero or chafing-dish should always, if possible, be avoided. It may be useful to strengthen this caution by describing an occurrence that came under my own notice.

One of our party went to bed in a large room in the posada at Tarragona during a winter month. He awoke towards morning with an intense headache, a sense of extreme faintness and prostration of strength, a choking in the throat and the "besoin de respirer." With great difficulty he succeeded in getting out of bed, for consciousness seemed to be kept alive only by an effort, and muscular power was almost gone. Instinctively he crawled, trem-

bling towards the window in search of fresh air. Here some relief was soon found; but headache, loss of muscular power, tremulousness and general indisposition remained for four or five days afterwards. On inquiry into the cause of these symptoms, it was found that a brasier of ignited charcoal had been placed in an obscure part of the room, near the head of the bed, which the careless servant had neglected to remove.

In Spain, beds are usually placed in alcoves or recesses; but, as these latter are unprovided with any other means of ventilation than such as the door may afford, it is far better to sleep in the ordinary apartments.

An inseparable from the bedroom all along the southern coasts, as well as on several of the rivers, is the musquito, which is little else than our own familiar gnat, with the will and power of annoyance considerably sharpened by the warmth of the climate. Nervous persons often suffer extremely—less from the poisoned wounds which they inflict, than from the perpetual song of defiance which marks the attack and retreat of these little creatures, and which either causes a serious watchfulness, or continues to haunt the sleeper during his broken repose. It is chiefly in the autumn and the end of summer that they are troublesome; in the winter, wherever they do appear, they are few and may readily be killed. The best plan for this operation is to watch them on the wall, and approach a lighted candle stealthily towards them, in a direction from above downwards, when they spring upwards into

the flame. When they are very numerous and active, musquito curtains to the bed afford the only protection; but great care must be taken that the web is extremely fine and the meshes so large, as only just to impede the entrance of the insect; otherwise they would very seriously interfere with respiration. The best I have ever seen are those that are made of silk at Valencia expressly for this purpose. Solution of ammonia is the best application to the bite, except when it is situated in the neighbourhood of the eye.

V. Acclimatization, &c. — The transition to a warmer climate, unless made more gradually than is usually the case, is sometimes attended with slight indisposition. The following are the ordinary effects. For the first few days there is great activity of the stomach, which seems to be capable of digesting anything. The appetite is increased, and the person probably eats and drinks freely. He perspires indeed a good deal, and there seems to be a want in the system for support. After a few days, however, a change takes place; the appetite fails, the tongue is coated, and the stomach becomes now as languid as before it was active. These symptoms are removed on the occurrence of diarrhœa, or a bilious attack with vomiting, and perhaps feverishness and urticaria, which usually passes off in a day or two. This is a common result: it is the first step towards acclimatization.

The recurrence of the above symptoms may usually be prevented by avoiding exposure to the mid-day sun, by abstinence from wine, and by with-

standing the deceptive demands of the appetite during the first week or two after arrival.

Constipation is a not unfrequent occurrence to travellers. An enema of half a pint of lukewarm water is a convenient remedy, and various forms of apparatus for the purpose, as now made, are very portable. If this should prove inefficient, recourse may be had to some simple medicine, a supply of which might be brought from England. Four grains of rhubarb and one of soap form a mild and generally effectual pill. Of these one might be taken before dinner, and one or two, according to circumstances, at bedtime.*

In elevated and dry localities constipation is apt to occur to persons who come from countries that are differently circumstanced. At Madrid I was consulted by more than one gentleman, connected with the embassies there, for the relief of this complaint, to which they had not been subject previous to the residence in Spain. In these cases a stronger aperient is sometimes necessary, such as equal parts of the compound extract of colocynth and the compound galbanum pill. Any but the most gentle action, however, should always be avoided in warm climates unless by the direction of the medical attendant.

* The following are stronger :

℞. Pulv. Rhei.
Extracti Aloës (Ph. L.) ā gr. ij.
Extr. Hyoscyami, gr. j. M. ft. Pil.

PART II.

ON PARTICULAR CLIMATES.

CHAPTER VI.

General remarks on the climate of the Peninsula—The coast country and the interior—Madrid—Promenades—Climate—Diseases—Colic, pneumonia—Sanitary precautions—Choice of residence—Summer retreats—Aranjuez, the Escurial—La Granja.

The Spanish Peninsula is very nearly an island; and with a view to the consideration of its climate may be divided into the littoral portions and the interior. The climate of the former is everywhere mild in winter, narrow strips of low lying land nestling beneath the shelter of mountains, receiving the full influence of the sun or of the soft breezes that have been gathering warmth from the ocean.

The northern or Biscayan coast possesses a humid air; in winter the skies are cloudy, and rain is at least as frequent as in England. It is a mild form of Devonshire. Snow and ice are rarely seen, and oranges flourish in the open air, not only in Galicia but at Santander, and in profusion under the rock

of Santoña, between that town and Bilboa. Still the fruit, although perhaps edible, is scarcely an article of commerce. The indented shore of western Galicia is particularly mild. At Ponte D'Eume, to the north of Corunna, I observed a palm tree, twenty feet high, flourishing without protection in the open air. The country is green and well timbered. Summer is the season for travelling.

The western or Atlantic coast is for the most part dry; but it is liable to the opposite extreme when the west and south-west winds blow, and this is especially the case in winter. Still the character of the air varies in different parts, as for example at Lisbon and Cadiz. The skies are brilliant and sunny, and in proceeding downwards from Vigo the transparent atmosphere, the elastic air, the daily sea breezes, the vegetation, and the character of the inhabitants, proclaim more and more the approach to southern latitudes.

The Mediterranean or southern and eastern coast enjoys the warmest winters in Europe; and it is to a description of this part of the country that a large proportion of our pages is devoted. The air is decidedly dry, especially in the centre, about Alicante and Valencia, where the land, unless artificially watered, is in many parts barren. More of humidity occurs as we approach the Straits of Gibraltar on the one hand and the French frontier on the other. All along this coast the east winds, no longer dry, harsh, and irritating, but somewhat moist and soothing, unless at Gibraltar, are of frequent occurrence at all seasons. They help to temper the extreme

natural dryness of the air and keep down the summer temperature. The skies are unclouded; the vegetation and general aspect of nature oriental. It is a land of flowers and fruits; of sugar, cotton, dates, cochineal, and indigo; of rice, wine, and oil. And everything that grows, wherever there is water, attains a prodigious luxuriance.

The summers on this coast would be found too hot, unless for persons in good health; but for the rest of the year the climate is delicious.

From whatever side the interior of the Peninsula is approached it is necessary to ascend many hundred feet. It consists of one vast plain of table land, elevated on an average from two to three thousand, although in some parts the height exceeds five thousand, feet above the sea, cut up by ravines and river courses, and intersected by several chains of mountains, which divide and isolate large portions, sometimes so completely, as to present no other outlets than those by which the rivers escape.

So clear is the atmosphere that the mountains are, generally speaking, visible from all parts of the plain; sometimes indeed as a faint blue streak only. But occasionally there is nothing to the far distant horizon to engage the senses, but the solitude of the parched and half cultivated plain,—unbroken, treeless, and apparently houseless,—for the villages are sheltered and hidden in the ravines. Even the mountains, although their forms are fine, have a stern and ungraceful grandeur. No veil of intervening vapour softens the outlines which rise up gaunt and sharp against the blue sky; whilst the vertical

sun and the general absence of clouds leave no opportunity for the play of shadows upon their surface. This it is true is somewhat compensated by the gorgeous display of colours which they reflect at sunrise and sunset, the glories of which are indescribable.

The rivers Douro, Tagus, and Guadiana, take their rise in these central districts, and all tend towards the west or Portuguese side, in which direction the land gradually but decidedly inclines. So that the low lying coast country extends on that side to a much greater distance from the sea than on any other. Indeed, nearly the whole interior of Portugal is far less elevated than that of Spain, and, in consequence, it is much richer in timber, fruits, and those graces of landscape which, under favourable circumstances, are peculiar to such latitudes.

The air of central Spain is dry and rare, and often agitated by winds. The dryness has always been matter of remark even in classical days, and is a somewhat peculiar circumstance when the almost insular situation of the country is taken into account. It has been thought to be susceptible of explanation by reference to the situation of those lofty mountain barriers that border the interior, and which, not only bar the passage, to some extent, of the sea winds, but filter them as it were of their moisture. The nakedness of the country, as to timber, contributes also to the dryness.

The air is elastic, tonic, exhilarating, and remarkably pure. The range of the thermometer is very great, and its variations sudden and extreme. The summers are enervating, and, in the winters, every-

where cold, the frosts in the more elevated parts of the plain sometimes last three months at a time.

Were it not then for the stirring historic associations and the romance of the Castiles, for the noble race of men by which they are inhabited, and for the attractions which yet exist in the time-honoured cities—Salamanca and Burgos, Valladolid and Toledo—and what European is not interested in these things ?—central Spain would offer but little inducement to foreign travellers.

For the valetudinarian traveller, from September to December is by far the most agreeable and healthy season, although the rains may be sometimes heavy. It is at this season that the atonic and nervous dyspeptic may derive great benefit from the climate ; but the pulmonary invalid incurs great risk by remaining at all in the country. A person who is free from disease may, by proper management of himself, imitating as much as he can the habits of the natives, pass the whole year in the country without injury to health.

We proceed now to consider the climates of particular localities.

MADRID.

The climate of Madrid differs from nearly all the others treated of in this book. It is unhealthy ; and to invalids, unless the greatest care is taken, even dangerous. Still there are reasons why some account of it may be given here with propriety. Some persons may think of making a permanent

residence at Madrid; travellers proceeding to the Mediterranean coast may wish, in taking the land route, to spend some time in so handsome and attractive a city; whilst, to artists, its unrivalled picture gallery may afford temptations to study. And all who go there should have some acquaintance with the peculiarity of the climate, and with the precautions, as to regimen, which it especially calls for.

Madrid is very nearly in the centre of the Peninsula, in latitude 40° 24′. The population is thought to be about 250,000. It is built on the edge of a plateau, which extends from the mountains on the north and terminates abruptly at the valley of the Manzanares, above which it is considerably elevated. This river or mountain torrent flows on the west and south-west sides of the town, at a distance of a quarter of a mile. For the most part it is a slender stream, almost lost in a broad sandy bed; but, in times of great rains or the melting of snows in the mountains, it suddenly increases to a flood. This will account for the long and substantial bridges by which it is spanned.

The soil of the neighbouring country, as well as that on which the town stands, is sandy. Hence the surface is uneven and cut up, here and there, by little ravines or barrancos, the usual effect of the rapid flowing of waters over such soils when the surface is somewhat inclined. On one side only, where the ground is lower, there is a fine expanse of country dotted with evergreen oaks, which, at at first, taking the direction of the river, leads the

eye up to the fine sierra of Guadarrama. With this slight exception, the naked treeless country, without hedges and almost without houses, save the few that are hidden in the hollows just mentioned, and which, lying below the general level of the plain, do not meet the eye, stretches from the mountains up to the walls of the town, which are a simple girdle of brick work, useful for municipal purposes rather than for those of defence. From corn sowing to harvest time, a transient appearance of cheerfulness enlivens the ground; but, for the rest of the year, it is a desert; and from some of the gates you may step out, at once, from the gaiety of the city into a solitude as unbroken as any in the wilds of Estremadura. The great mountain chain, taking a direction from east to west, lies at a distance of seven leagues from the town and for eight or nine months out of the twelve is covered with snow.

By some travellers the situation of Madrid is considered to be pre-eminently picturesque for a capital. The greater part of the town is well, sometimes handsomely, built; many of the streets are broad, and planted with rows of acacia trees, and one of them, the Calle Acalá, is often spoken of as the finest in Europe. Public walks, and drives, and gardens, adorned with a profusion of statues and fountains, abound both within and without the town. Among the most attractive of these are the animated Prado, with its European reputation; the Buen Retiro, a charming mixture of straight dressy walks and mazy paths among thickets, where the nightingale may be heard; the fashionable Fuente Cas-

tellano, and the shady avenues of plane trees by the Manzanares, where, on every fine day, or night in the warmer season, the hard toiling Gallegans go to untire themselves by dancing and singing.

Full of boast as every Spaniard is of the magnificence of Madrid, so that years ago, in Philip the Fourth's time, when it was a small, dirty and meanly built town, it was known among them as "the only court on earth," they are all eloquent in declaiming against its climate. Even poets, like Lope de Vega, who have been born in the town, cannot strain their conventional licence in its favour.

"Siembra para mayo trazas;
Mas ninguna lleva flores,
Aires de Madrid lo causan.
Todos soplan hácia acá.
No hay sino bajar la cara
Mientras soplan estos cierzos
Que vienen de las montañas."*

And yet the air itself is pure and free from marsh exhalations; and in remote times, when the country was better wooded and cultivated and the atmosphere, consequently, softened by a proper supply of moisture, Madrid is described as having been both mild and healthy.

The chief peculiarities of the climate are, the extent of daily and yearly range of the thermometer, and the remarkable alternations of temperature that may be experienced in the course of a single short walk, in passing from the sun into the shade, or from a sheltered spot to some street running in a direction north and south. These peculiarities are

* Lope de Vega "Al pasar del arroyo." A. 2. Es. 20.

ascribable to the exposed situation of the town in the midst of an arid plain elevated 2,113 English feet above the sea; whilst to the north lies a lofty sierra, from the snowy crests of which, the subtle, dry, keen air enters the streets, unbroken and but little warmed by the intervening naked land which it has traversed. On the other hand, the sky is for the most part, serene and unclouded, and permits the full influence of a powerful sun to fall upon the town.

The mean annual temperature of Madrid is 57°, the mean range of the thermometer 102°. Sometimes, indeed, the range is even greater. In the summer of 1839, which I passed in Madrid, the thermometer on three occasions marked 112° in the shade, whilst in the succeeding winter there were several consecutive days of skating.

The mean daily range for the whole year is about 8° * (1846). The actual, as well as the sensible, range, on most days, is however, very much greater. Thierry † remarks that an inhabitant of Madrid is habitually exposed to a daily difference of temperature of from 34° to 40°; and, occasionally, the difference may amount to more than double those figures. I have myself observed a thermometer which indicated a temperature below freezing point a little after sunrise, and amounted to 106° in the sun at 3 p.m.! And, to this prodigious range, a person, out of doors, would have been exposed within the short space of seven or eight hours.

* 17° 84′ C. at 4 p.m.—13° 61′ C. at 9 a.m.

† Observations de Physique et de Médecine. Paris, 1791, Vol. i.

The mean temperature of winter is 44°, of spring 56½°, of summer 74,° and of autumn 58½°. These numbers, however, being derived from observations made at several periods of the day, afford only a comparative indication of the sensible temperature. The seasons indeed are ill defined, and in some years consist of little else than winter and summer. The former, is raw and long, and the winds, owing to their dryness and rarity, are piercing and cold, to a degree far beyond what the mean temperature would indicate. Frost and snow, with occasional warmer days, extend often far into May; and in June the intense heat of summer almost suddenly comes on. Then it is that all whose means or occupation permit it, hasten away to the banks of the Tagus, among the stately groves of Aranjuez, as they do, a little later in the season, to the mountain retreats of La Granja and the Escurial.

July is the hottest month, but in August the heat is most difficult to be borne. In the former, during my residence, the air was dry, light, and open, and seemed to carry off the fluid from the body by means of insensible transpiration from the skin and lungs, so that exercise could be freely taken although the thermometer stood at from 100° to 112° in the shade. The wind, often almost a calm, came then from the north; but in the month of August the character of the air was much changed; it had become extremely irritating and oppressive. A dull yellowish haze, which is generally spoken of at Madrid as due to an impalpable dust, filled the atmosphere, which seemed thick and heavy, and

gave rise to sensations similar to those which, to many persons, give warning of an approaching thunder-storm. The prevailing winds were now from the south and south-west. Then it was that nervous diseases became rife, delicate persons suffered, and children, who had borne up against the heat of the early part of summer, began to pine away, loose flesh and appetite, to become fretful, suffer from feverishness, diarrhœa, perspirations, convulsions, &c. In vain half the night was spent on the public walks and terraces, inhaling the comparatively cool breeze. The breeze came from the south, and was endowed with properties which deprived it of the power of refreshing; and, once in the house, its irritating effects were developed in the susceptible. Such was the history I obtained in the cases of several persons who were experiencing the hurtful influences of this wind, which is not very dissimilar in its effects upon the system to the African sirocco.

The summer heats of Madrid, indeed, as well as the habits to which they give rise, are oriental rather than European. During the noontide hours the whole town is buried in sleep; shops and houses are closed, and the tired muleteers and water-carriers throw themselves down in the shade, beside some fountain, or repose securely, stretched across the roads which were thronged but a short time before with horses and vehicles. Even the bull-fights are suspended during the great heats, for the hospital, to which the arena belongs, found, as I was informed, that so much severe sickness resulted from exposure to the

burning sun, that the profits of the spectacle were counterbalanced by the increase in the admission of the sick.

When they are awake, the chief occupation of the inhabitants seems to be the perpetual imbibition of ices and half-frozen sub-acid drinks, for the supply of which there are numerous shops and peripatetic vendors. Of these beverages, the most peculiar and thirst-quenching is *agraz*. It is made with sour grapes, pounded with sugar and water, after which the mixture is repeatedly filtered and frozen. It is extremely grateful, and is an excellent antidote to the fiery air, but must be used with moderation, for with some persons it is apt to provoke diarrhœa. As the night wears on, children, who have been carefully imprisoned in the cooler parts of the house throughout the day, are taken out to walk and play; and whilst the more secluded retreats invite the serenaders, the promenades, until a short time before sunrise, alive with people, resound with conversation and the tramp of horsemen, mingled with the incessant cries of the water-sellers, "Water, water, cold as the snow! who wants water?"—"Agua, agua, fresquita como la nieve, quien quiere agua?"

In regard to the other seasons, the winters are raw and often windy, and in addition to hard frosts, snows sometimes cover the ground for days together. The spring is inconstant, and is generally viewed as the most disagreeable and unhealthy of the seasons. The autumn and the early winter are by far the most pleasant and healthy portions of the year, and,

when there is a choice, should be selected by the traveller. It will be gathered from what has already been said, that June and the first half of July are the best parts of the summer.

The mean height of the barometer is 27·8 inches, and the yearly range one inch, one line and a half. A striking correspondence has been observed between the heights at noon and at 10, P.M.

The climate of Madrid is essentially dry. The quantity of water that fell in 1846, whether as rain, dew, or snow, was but $20\frac{1}{2}$ inches. The number of rainy days, *i.e.*, of those on which the rain was in sufficient quantity to be measured by the pluviometer, was only 37. The mean term of the hygrometer of de Saussure was 65·9°.

Of the winds, the north-east prevailed on eighty-seven, the south on ninety-nine, days.

It has been already stated that Madrid is a very unhealthy town; and it is particularly so to infants and young children, the mortality among whom is very great. The duration of life is short. Among the diseases, which depend very much on the vicissitudes of the climate and the sudden transitions from heat to cold, pulmonary consumption, rheumatism, catarrhs, inflammatory fevers, gout, quinsey, are very common; but the two with which the name of Madrid is most associated are colic and pneumonia.

The colic of Madrid sometimes prevails epidemically, and affects new comers equally with those who are acclimatized. At such times a peculiar constitution of the atmosphere exists, so that persons,

sick of other complaints, experience more or less pain in the abdomen. Although the disease does not usually destroy life, its duration is often protracted, or there is a constant liability to relapse; and in such cases remedies exert but little influence until the sufferer has descended from the high plains of Castile, a step which, of itself, is often all that is necessary to a cure. The disease not unfrequently terminates in palsy of motion; the upper being more often affected than the lower extremities. The favorite Spanish treatment is by repeated small doses of castor or almond oil. I have witnessed also the best effects attend the use of calomel and opium, combined with purgatives; the remedies, indeed, which would sometimes be employed in similar cases in England. Some summers pass away in which there is very little colic.

The pneumonia of Madrid, or pulmonia, is most common during the colder part of the year, but no season is exempt from its invasion. The extraordinary rapidity of its progress and its fatal character, are the chief peculiarities of the disease; so that it not unfrequently happens for people, leaving balls or warm rooms at night and encountering the treacherous wind, to be seized with pulmonia, and die in a few hours. The disease often terminates fatally without advancing to hepatization of the lung; an intense congestion of blood seeming to induce asphyxia.

It should be impressed upon the stranger in Madrid that the air which produces these terrible consequences, the assassin breath of death, as it has

been graphically termed by Ford, is often so gentle in its movements, that no suspicion of its hurtfulness might be created. Indeed, the proverb in the mouth of every Madrilenian, that the subtle wind will kill a man although it cannot extinguish a candle,

> "Es el aire de Madrid tan sotil
> Que mata a un hombre, y no apaga a un candil,"

is founded on sad experience, and sufficiently illustrates what has been said.

Flannel, voluminous enough to cover the abdomen as well as the chest, should be worn in all seasons; this, along with the habitual use of the cloak, so that the mouth may be covered, in the winter and at night, and the avoiding as much as possible exposure to the winds, constitute all that can be said in the way of prevention.

All parts of Madrid are wind blown; but the streets in the neighbourhood of the palace are particularly so. The residence should be chosen in a street that runs east and west. The hotels are all second-rate; but there are several good boarding-houses; and private apartments, of all degrees of excellence, are to be found in most parts of the town. In the way of provisions, everything that money can command may be obtained as well, almost, at Madrid as at any other capital. The water, brought from the mountains, is peculiarly good.

In the case of visitors who propose to pass a year or more at Madrid, it is very desirable that an occasional change of residence should be made. In the

spring, Aranjuez, and still later, La Granja and the Escurial, are the usual and most accessible places of resort; whilst in the autumn, a few days spent in the more bracing air of Salamanca and Zamora, would be of service.

ARANJUEZ.

This royal seat, distant twenty-four miles south of Madrid, may now be reached by railway. It lies on the left bank of the Tagus, in an open valley, and is a green oasis in the midst of the parched plains of Castile. The climate, during the season, which consists of the months of April and May, is soft and delicious in the extreme. Soon after this the heat becomes great and oppressive, and severe forms of intermittent fever commonly prevail.

A more enchanting holiday place than Aranjuez, to those at least who have lived much in central Spain, does not exist. Woods, groves, gardens and thickets, filled with nightingales, and relieved by green meadows, extend for miles along the banks of the river. The trees, especially the elms, which were introduced by Philip II. from England, are of prodigious height and girth. Fountains, statues, and cascades, give variety to the grounds, which are, moreover, sufficiently extensive to gratify at the same moment those who are happy in the crowd and those who find charms in retirement.

The town, laid out in broad straight streets, with white houses and rows of trees, resembles some of the German watering-places. Ample accommodation of an excellent kind is to be had. One of the

hotels is kept by an Englishman. During the season there are often 20,000 visitors here, all conditions, from the court to the other end of the social scale, being represented. In addition to the pleasures of society there are bull-fights, theatres, grand fountain-playing days, and military music daily in the gardens.

The water, it may be observed, contains small quantities of sulphate of soda, and is apt to prove an aperient if taken largely.

THE ESCURIAL.

The Escurial, distant about as far from Madrid as Aranjuez, lies to the north-west of the capital, in a recess of the great mountain-chain, already referred to, which separates Old and New Castile. Immediately before it, the uninterrupted plain stretches away, gradually descending, to Madrid, from which, indeed, the Escurial is visible. The summer and autumn temperature is comparatively cool, and the place is very much exposed to winds, which are not, however, so hurtful as at Madrid, the air being softer and more humid. Many visitors, for whom there is tolerable accommodation, come here during the season. The gigantic convent-palace, the eighth wonder of the world, as the Spaniards term it, will afford materials for several days' occupation. As to walks and drives, they are never without interest wherever there are mountains. A Spanish description of the Escurial would not be complete without a tribute to the excellence of the water.

LA GRANJA, OR SAN ILDEFONSO,

The third of the royal seats, lies fifty miles from Madrid, and eight from Segovia, at a height of nearly 4,000 feet above the sea, on the north side of the mountain-range, and between two of its lofty buttresses, which leave it fully exposed to the north. The situation is most picturesque and romantic, and abounds in varied and almost inexhaustible excursion grounds, for the better enjoyment of which there is an almost unlimited supply of ponies and mules. "The localities are truly Alpine; around on all sides are rocks, forests, and crystal streams, and above towers La Peñarala, rising, according to some, above 8,500 feet."* The gardens and grounds of the palace are also extremely beautiful, art having most judiciously availed herself of the natural advantages of the place. The fountains, which play on great occasions, are thought by some to be a greater triumph in beauty of design, than those of Versailles.

The season at La Granja, during which the court takes up its residence there, commences soon after the termination of that at Aranjuez, although it is sometimes nearly the end of June before the air is sufficiently warm. It extends to the middle of September, when the winds often become cold and call for additional clothing. Even persons who are very susceptible of heat pass the summers at La Granja without inconvenience; and the air being softened and moistened by the numerous running streams, the

* Ford's Hand Book, p. 472.

lake and the widely extended foliage, possesses in a very slight degree only, if at all, the nerve-deranging properties by which it is characterized in the neighbouring country.

The accommodation at La Granja is good, and the road from the capital, a magnificent piece of engineering, is kept in good repair. Posting as well as diligences are established on this and on the road to the Escurial. The travelling, which is rapid, takes place usually by night.

CHAPTER VII.

LISBON.

Climate—Attractions of situation—Diseases—Prevalence of leprosy—Cases in which the climate is beneficial—Choice of residence—Cintra—Coolness of its summers.

During the last war, when it was one of the few accessible places in the south of Europe, as well as before that time, Lisbon enjoyed a high repute among English invalids for the beneficial character of its climate. The neglect into which its claims have at present fallen is probably as undeserved as was their former excessive praise.

Being in the 38° of north latitude, Lisbon is considerably to the south of many localities celebrated for the mildness of their winters.

The prevailing character of its climate is dry and bracing; for during, on an average, nine months nearly of the year, the winds come from the north or from some point but little removed from that quarter. Before reaching the town they have travelled over a great extent of dry open country, often

consisting of sandy wastes, covered with pine trees and aromatic herbs. During the remaining three months of the year the south-west is the prevailing wind. This is moist and relaxing in its effect on the system, and is almost always accompanied with rain. Exceptional years have occurred in which the moist winds have even exceeded in duration those that are dry. The east winds are almost unknown, a whole year frequently passing without their occurrence.

Franzini's observations on the winds, made during a long series of years, give the following results. The north wind prevailed on 144 days, the north-west on 124, and the south-west on 138.

This inconstancy in the character of the climate—the fluctuation between the extremes of dryness and moisture, and the variations of temperature depending on alternate sunshine and rain—is even in ordinary seasons pretty strongly marked at Lisbon, especially when compared with what occurs at Malaga or Madeira. The changes too are often sudden as well as remarkable.

The soft relaxing sea winds prevail, for the most part, during the autumn and early winter, and under their influence and that of the rain which accompanies them, the surrounding country becomes suddenly clothed with verdure. Grass springs up in profusion upon the house tops, whilst the trees retain a full crop of green leaves, and the gardens are gay with flowers in the month of December. During much of this time rain is of frequent occurrence; sometimes falling so much and so continuously

throughout the day as wholly to deter an invalid from leaving the house.

Towards the middle of November, however, the rain and clouds disappear, upon a change of wind to the north; the air becomes dry and bracing, the sun shines out with great power, and what is termed the summer of Saint Martin commences. This usually lasts from three to five weeks, and then fine weather and rain alternate throughout the winter, although the former, as a general rule, greatly predominates.

The mean annual temperature of Lisbon is 61°, which nearly represents that of the month of October; the mean of winter being 52°, spring 60½°, summer 70½°, and autumn 59½°. The mean annual range is 60°, the mean extremes being 34° and 94°, and the mean daily range during the twenty-four hours is 15°.

The average number of days on which rain falls in the year is 98; the quantity 23 inches. The most rainy months are from October to January inclusive. Frost and snow are exceedingly rare, many years often passing away without their occurrence, but high winds are not uncommon.

The climate of Lisbon, then, measured by these statistics, as well as by the state of vegetation, even in midwinter, must be considered a very temperate one. Its prevailing character points it out as likely to prove beneficial in the treatment of those affections in which atony and relaxation, uncombined with much disposition to inflammation, are present. But it must be borne in mind that exceptional sea-

sons do sometimes occur, in which the climate is better adapted for diseases of a directly opposite kind. Observations made exclusively under one or other of these circumstances, may serve to explain the contradictory opinions that have been given of the sanative properties of the climate.

To those who are fortunate enough to visit it during a good season, and have judged rightly of the climate best adapted for them, a residence at Lisbon affords the opportunity of great enjoyment. The commanding beauty of its situation and the extent, variety, and cheerfulness of its views, which sweep over the broad and bay-like river,

"Auriferi ripa beata Tagi,"

are very uncommmon. The latter teems with the life and strange craft of southern Europe, whilst many miles of undulating woodland on its further shore prepare the way to the mountains of Arrabida, and together afford objects upon which the eye will never tire to dwell. During the fine weather, moreover, the air is peculiarly exhilarating, and the tints of the sky of unusual brilliancy and beauty.

Lisbon was formerly recommended as a residence for consumptive patients. But even in its earliest stage, or in that state of cachexy which usually warns its approach, the treatment of so grave a disease had much better be committed to a climate, the character of which can be calculated upon with more certainty. When the disease has ceased to threaten merely, and the prospect of prolonging life depends upon the opportunity of securing a tranquil play of

the functions of the body, there can be no question that the stimulating air of Lisbon will be decidedly prejudicial.

Among the natives consumption would seem to be on the increase, although the statistics by which to judge of the extent of its prevalence are not of a very trustworthy nature. Still, from what may be seen in the hospitals, and from the conversations of medical men who practice there, I do not doubt that it is one of the most common causes of death. At the same time, in explaining the causes of this mortality, it is proper to take into account the poverty and unwholesome dwellings of many of the poor, and the propensity there is in warm climates generally and among all classes to court, whilst in a heated state, the currents of cool air. The disease is generally preceded, I am told, by hæmoptysis, a symptom which, whenever it occurs, is looked upon with great alarm.

It must not, however, be supposed that the degree of prevalence of phthisis at Lisbon will bear comparison with that which obtains in England. During the two years ending June 1847, there occurred among the inmates of the Hospital of San José in that city, most of whom had passed the period of childhood, 3,889 deaths. Of these 375 or about a tenth part only, were from phthisis. And even this number is probably an exaggeration of the real mortality from this disease, the diagnosis being commonly made independently of the stethoscope.*

* See for statistics Relatorio e Contas do Hospital de S. José, Lisboa, 1846-7.

It is doubtful how far it may be advisable for those persons to reside in Lisbon in whom there is a predisposition to cerebral affections. Certain it is that, among the inhabitants themselves, apoplexy and palsy are proverbially of frequent occurrence, especially during the last three or four months of the year.

Rheumatic complaints are also common, but are to be attributed rather to the absence of proper precautions than to the rigour or the dampness of the climate. Such affections are thus found to be common, even in the summer, at many places in the south of Europe, such as Genoa, where the ground is hilly and exposed to partial draughts of air, and to a temperature varying at different parts of the same town.

An enumeration of the diseases of Lisbon would be very imperfect, without some notice of that fearful scourge, the elephantiasis or leprosy of the middle ages; a disease which, although less distressing to the sufferer in its progress, is far more loathsome in appearance than the pellagra of Lombardy and Romagna. It is endemic in Lisbon,* and, as I was told, in the country extending thence by the river side to Santarem. You cannot walk the streets without seeing many of the poor, often mendicants, afflicted most palpably with some form of the complaint; whilst the practised eye will detect a far larger number pursuing various occupations, in whom the seeds are beginning to germinate.

* Its existence in Portugal seems to be little known out of that country. Even Dr. Copeland (Dictionary Art. Lepra) appears to have been unaware of the fact.

Of all the leper hospitals in the Peninsula, at Lisbon only did I find one tenanted by the unhappy beings for whom they were built. Here there were 40 beds for men and 15 for women, all being occupied by confirmed cases of the disease.

The first indication of the presence of leprosy is a discoloration in patches of the skin of the face; or dingy red tubercles of various sizes show themselves. One of the most characteristic signs is an elongation and thickening of the lobe of the ear, or a distortion and spreading out of the alæ of the nose; and one or other of these changes often exists as almost the sole foreshadowing of what is to come.

After a time the face, beset with tubercles, becomes puffed out, although not symmetrically, by subcutaneous deposit, and is traversed by deep lines, which corrugate the cheeks and brows. The lips are thickened and fissured; and the whiskers, eyebrows, and lashes fall off.

In this way, the human aspect of the countenance is sometimes almost lost, and a most remarkable resemblance to that of the lion occurs. Among the lepers in the hospital at Lisbon, during my visits, were two or three, with this peculiar physiognomy strongly marked. But many others may always be seen in whom some approach to this humiliating disfigurement is apparent.

Gradually the tubercles extend over the limbs, and sometimes upon the trunk, whilst the skin, becoming more and more thickened and wrinkled, assumes a light coppery colour.

Life is reduced to a state of vegetation ; the intellectual and vital functions are all blunted ; smell is lost, and common sensation impaired, so much so, indeed, that the most severe pinching of the flesh may fail to arouse the benumbed feeling. In some cases this loss of sensation is the most prominent feature of the complaint.

Sometimes the disease in its early career seems to be arrested ; but generally, after the lapse of some years, the tubercles ulcerate, and dark scabs are formed. A similar state of things occurring in the nose, and extending to the bones, gives rise to ozæna. The mucous membrane of the throat is affected like the skin, and the voice, at first husky, becomes lost.

The fingers and toes ulcerate at the articulations, and drop off joint by joint. So that a whole hand is sometimes seen with the terminal phalanges, which are the last to suffer, reposing upon the metacarpal bones. Spontaneous amputations of the larger joints in like manner occur.

In this way the wretched being, his body experiencing successive mutilations, and exhaling a loathsome fætor, passes his days, and at length turns in his bed, and dies without a struggle. Or, the labouring breathing bespeaks an extension of the malady to the bronchial tubes, and he dies suffocated ; or, an attack of diarrhœa or erysipelas, almost always a fatal symptom, closes the scene.

I could not learn that the disease had been investigated at Lisbon in a way to throw much light on its causes. It is confined to the poor, and

although an hereditary, is not viewed as a contagious, complaint. Certainly it is not of a nature to create the least objection to Lisbon as a place of residence.

The diseases for which the winter climate is best suited, are such as are characterised by want of tone and relaxation, such as chronic discharges of a passive nature, from the mucous membrane, the atonic form of dyspepsia, passive congestions, &c.

Dr. Mackenzie, a physician practising at Lisbon, and attached to the English hospital there, informed me that persons affected with the moist forms of chronic bronchitis have uniformly, according to his experience, derived advantage from the comparative mildness and dryness of the air. In such cases it will, however, be at least as necessary, as in England, to guard against the variableness of the climate. The absence of this precaution, among the natives, causes such affections to terminate, not unfrequently, in latent pneumonias.

Lisbon may also be strongly recommended as a winter residence for that large class of persons who, with impaired health, are, nevertheless, free from actual disease; for those who seek to escape, for a time, from the cares and anxieties of life, or the length and rigour of an English winter, and for convalescents or others suffering from temporary debility or cachexy.

Independently of the climate, the invalid will here find many advantages which few other continental places afford. It is within four days' voyage of England, and frequent steam communication is

kept up with that country. There is a considerable population of our countrymen, including among them a chaplain and two physicians. Excellent fish, beef, and poultry, are to be had, and from a long familiarity with our usages, it will be found much easier to provide and enjoy many of the comforts of an English home at Lisbon than in most other foreign towns. A well supplied reading-room, and many public places of amusement, furnish other grounds for recommendation. The town is full of life and bustle, and whether the boast of the Portuguese poet,

"Vereis hum mundo n'hũa só cidade,"

be justifiable or not, Lisbon presents the aspect of at least a great and majestic metropolis.

The enjoyment which an invalid may find at Lisbon will depend very much, however, upon the selection of a good situation. For this purpose, more than usual care is necessary. The town extends upwards of seven miles along the north bank of the Tagus, the finest body of water, as it has been termed, on the old continent, and is built upon a number of little hills, some of which rise to a height of several hundred feet, and upon the intermediate low ground that separate them. There is, therefore, a great variety in the aspect of different sections of the town. Some are particularly exposed to currents of cold air, so that an habitual difference of two or three degrees of temperature is perceived between them and the lower portions of the town. In these latter are to be found many new streets, broad and level; but if a

hilly situation is preferred, the southern slope of the hill must be chosen, and in all cases, the street should run in a direction from east to west.

In the town itself, the Braganza, an English hotel, is very favourably situated. It stands upon a natural terrace, a hundred feet above the river, over which, and the fine country beyond, it commands a cheerful and extensive view. The house has a long front towards the south; and balconies, reaching from one end to the other, and completely sheltered from cold winds, afford a good opportunity of exercise to those who are unable to walk elsewhere.

One of the best situations for an invalid, who intends to pass the winter here, is the upper part of the Val do Pereiro, a continuation of the valley in which the new part of the town and the public gardens lie. Here, upon the southern slope of the hill, are a few villas in the midst of orange gardens, which are well sheltered, and afford choice views over the town and river

Those who prefer a country residence, may select the neighbourhood of Bemfica, a village on the Cintra road, about a league from Lisbon. This place is in high reputation, among the Portuguese physicians, for the purity of the air, and it is here they send their convalescents. It contains many villas and gardens, and affords several sheltered situations, under the cover of the gentle hills that rise about in different directions. It will happen, not unfrequently, that when a chilling wind is found in the exposed and shady streets of Lisbon, a genial glow may be perceived in the air of Bemfica

—a recommendation in favour of the latter, to which may be added some advantage on the score of the constancy of its climate. An excellent road, well provided with public vehicles, leads from it to Lisbon.

In a sanitary point of view, Lisbon has, during the last few years, been greatly improved; and even in 1843, Senhor Cruz calculated the mortality of the city as not exceeding one in 29·8;* a proportion bearing favourable comparison with several other European capitals. Indeed, few situations could have been chosen presenting a greater natural exemption from the causes of endemic disease. There are still, however, many streets and districts where the old character of the town is upheld, where accumulations of all kinds of filth and refuse lie in the thoroughfares, to be disputed for by dogs, or to undergo gradual decomposition.

It is chiefly in the damp and warm weather of autumn that unwholesome consequences are found to arise from these pollutions, and then, agues and abdominal complaints are not uncommon in the most offensive localities. I had an opportunity of witnessing an occurrence of this kind in October and November, 1848, when, for a few days, there was constantly a moist warm sea wind. This condition of the atmosphere, acting upon the materials in the streets, and, at the same time, retaining the results of their decomposition in the lower strata of air, was followed by an epidemic of which severe diarrhœa and cramps were the chief symptoms.

* Ensaio sobre a Topographia Medica de Lisboa, 1843.

This affection, after becoming general throughout the town, suddenly disappeared on the wind changing to the north.

During the greater part of the year, the dryness of the air, and the freedom with which it almost always circulates, in the streets of Lisbon, together with the powerful light and heat of the sun, counteract to a remarkable extent, the ordinary consequences of the decay within a town of such materials. To a stranger they would appear to be an inevitable source of pestilence and disease. But, after all, their diffusion over the surface, exposed to the sun and air of such a climate, is, probably, much less prejudicial to health than their concentration in cesspools or defective sewers.

Lisbon affords ample opportunity for walking and riding exercise, whilst the hilly parts of the town may be traversed in omnibuses or hack carriages. Steamers ply many times a day across the river to Almada, and during the fine weather, the dry sandy pine woods which abounds in its neighbourhood will be found most enjoyable excursion ground.

Before leaving the subject, it will be well to recommend those strangers who visit Lisbon in the summer, to guard themselves against the extreme difference between the day and night temperature during that season. In the months of July and August, during my visit, the day heat was powerful, and the atmosphere calm; but no sooner was the sun approaching the horizon than the evening breeze from the Cintra mountains sprang up, and steadily increased so as sometimes to amount to a

gale. Indeed, with such force does this wind sometimes blow, that boats are unable to return from the south side of the Tagus, and have to wait for the certain calm of the next morning.

A person, therefore, going out into the night breeze, will feel decidedly chilly if he uses no warmer clothing than such as conduced most to his comfort during the mid-day.

The same caution is even more necessary in going upon the water after sunset; for the night dews are then very heavy. The land breezes, just spoken of, are considerably colder than the water; and as they set in, the whole course of the broad river is marked by clouds of condensed vapour.

Excepting the middle of summer, there is no part of the year in which Lisbon may not be visited by valetudinarians.

CINTRA.

Cintra, a name which dwells in the mind of most persons, as associated with almost more than earthly luxuriance and beauty of scenery, is the principal summer residence of the court, as well as of great numbers of the other inhabitants of Lisbon. It is reached by an excellent road, and is distant sixteen miles from the capital. The town is built at the foot of a chain of granite hills, which attain a mean elevation of little less than two thousand feet. Their summits are riven in a most picturesque manner, quaintly piled pinnacles shooting up into the sky; and, as usually happens with rocks of this for-

mation, numerous crystal streams gush in abundance from their sides, and help to create the marvellous display of vegetation for which Cintra is so renowned.

The neighbourhood is an assemblage of rocks and woods, of green dells, gardens, orchards and winding lanes. The variety of trees and shrubs is very striking; the natives of many different climates, from the English oak to the cypress of Goa and the orange of China, being brought together. And all come to perfection. Noble cork and ilex trees everywhere overhang the roads, the crooked fantastic branches of the former being stained or fringed with pendent lichens. Stone pines, Spanish and horse chesnuts, the elm and the ash, the silver poplar and the walnut, willows, pinaster, and the wild olive, form numerous groves and woods. The wild underwood contains laurestinus, bay tree, arbutus, and myrtle; whilst the gardens are a wilderness of oranges, lemons, vines, and every variety of fruit tree.

The coolness of the summer air of Cintra, which is very remarkable, is not to be accounted for by its elevation only; the frequent breezes by which the town is swept, the running streams, the abundant vegetation, the nature of the soil, and the amount of humidity, all contribute to its production. Showers are not unfrequent, and Scotch mists sometimes hang about the hills. Still the place is decidedly healthy; and persons who are even very susceptible of heat, will find no difficulty in supporting that of its summers.

The winters, although temperate, are damp, rainy and cheerless.

There are two good hotels, Victor's and the English; besides numerous furnished houses, the accommodation in which is of a superior kind. In addition to the society, which the summer always brings there, the amusements consist of certain show places, such as the palace and the villas, daily military bands, but above all the walks and excursions about the rock. Some of the best points of view are in the grounds of the villas or quintas as they are termed; and these are freely open to all.

CHAPTER VIII.

SEVILLE.

Situation—Climate—Proofs of mildness in the state of vegetation—Compared with Malaga—Diseases—Invalids who may go to Seville—Its uncommon attractions.

SEVILLE possesses other attractions for the traveller than its historic name and monuments, its sunny plain, poetic river and orange groves; its treasures of art and its true Andalucian character. The climate, differing in some respects from the others which I have described, will render it a most enjoyable winter residence in some forms of indisposition.

Colder in winter and hotter in summer than Malaga, Cadiz, Alicante and perhaps Valencia, the air of Seville during the former season is both more tonic and bracing than in some of these places; a circumstance due in some measure to its inland situation. At the same time there is a voluptuous softness about it, not of a nature to enervate, but rather to exhilarate, both morally and physically, whenever the full sunshine appears in the temperate months, the influence of which is generally felt by

visitors. This influence, perceived more or less in most southern latitudes, at a time when the sun may be courted rather than avoided, manifests itself to an unusual extent at Seville. In its effects on the constitution it is like that rekindling of strength and youthful feeling, of which many persons in England are sensible during the first warm days of spring.

Unlike most other Spanish towns, Seville lies in the open corn-growing plain. In form an irregular parallelogram, one of its longer sides runs along the left or south bank of the Guadalquivir, whilst the level of some parts of the city and neighbouring ground is so little raised above the river, that in times of great floods they are apt to become submerged. The larger portion of the town, however, is built upon many little elevations, which, never amounting to hills, effectually defend it from any such risk.

To the north-west, at a distance of rather less than a league, runs a line of low olive-bearing hills, beneath which lie the ruins of the old Italica, the birth-place of Trajan, Adrian, and Theodosius. In nearly every other direction, the plain extends for many miles with but trifling undulations, when it gradually rises on the south and east sides, at a distance of from two to three and four leagues. Far beyond, in the same direction, may be seen the broken piles of the Ronda sierras and the great mountain San Cristobal, dwindled by distance and the low point of view from which they are seen.

On the south-west, the flat land extends almost without variation, in the direction of the river, as

far as the Atlantic. This disposition of the ground may serve to explain the fact that the sea breezes are distinctly perceived in Seville, especially in the summer, although the distance from the ocean is about seventy miles.

Seville is surrounded on all sides by the old Moorish wall, which rises to an average height of about twenty feet. Within is a population of 130,000, occupying the same space whereon 400,000 Moors dwelt at the time of the conquest. The majority of the streets are very narrow and for the most part crooked, and, like Arab towns in general, there are few long continuous thoroughfares. But the disadvantage of these circumstances for purposes of ventilation is compensated, to some extent, by the number of little squares in all parts of the town, (mementos almost always of demolished convents,) by the lowness of the houses and the extent of ground upon which these latter stand; few being unprovided with court-yards, and many in addition having gardens. Added to this is the favourable manner in which the surface of the town rises, especially in its central parts. Offensive smells are rarely perceived in the streets which are all paved and well cleansed.

The most unfavourable feature in the medical topography of Seville is the occasional liability to inundation of some of the suburbs. And although it is not probable that this circumstance will prove hurtful to the visitor, who merely passes the winter there, and is not likely to reside in the objectionable locality, it exercises a considerable influence in

regard to the diseases to which the natives are subject.

Outside of the walls, on the east side, is a low tract of meadow land, termed the Prado de Santa Justa. After heavy rains it becomes completely flooded, and, in the month of June, I saw a good deal of water still lying about; whilst several open ditches and ponds, in the neighbourhood, emitted offensive exhalations.

Not far from this spot, the houses and streets are provided with moveable dams to guard against sudden irruptions of water. Here too is the huge hospital of "La Sangre," where may be observed a novel feature in the economy of such institutions. The lower tiers of windows, although several feet above the ground, are furnished with grooves in the jambs for the temporary admission of a slide or dam whenever threatening floods may require their protection. The choice of such a situation for an hospital implies that in seasons of inundations the sick can inhabit only the upper, as, in the hot season, they inhabit only the lower story of the building.

There is also an open stream or arroyo which, after traversing the meadow just spoken of, winds round the east and west sides of the town, for the most part close to the walls, and falls into the Guadalquivir near the Golden Tower. In rainy seasons a large stream of water runs down this deep channel; but, for the greater portion of the year, it is a sluggish shallow ditch, full of black decomposing vegetable matter. Much unhealthiness, especially summer and autumn fevers, is fairly ascribable to this

source. The fact of its existence should be borne in mind before the stranger decides upon his place of abode.

The repeated inquiries of several friends in Seville, official and non-official, as well as my own, could obtain no knowledge of the existence of any recorded meteorological data whatever, either of a public or private nature: a proof that science has not been cultivated with the same success as art in the famous capital of Andalucia. The only alternative, with a view to form an opinion of the climate, will be to make use of unregistered observations, and of the valuable information afforded by the state of vegetation.

The mean annual temperature of Seville is probably higher than that of Cadiz; for although the winter in the former is colder, the summer is much hotter. At the same time the air is dryer and less relaxing.

Frost and snow are of rare occurrence. The majority of persons with whom you speak on the subject say they never happen; others, more observant, recollect two or three instances in a life time. Nevertheless, a fire will be much more necessary in the winter than at Malaga, the cold being of a more sensible nature. After nightfall and during the early morning, there is a keen penetrating feel about the air which no person with delicate chest should encounter. Nor should he venture out into the narrow streets until the sun has gained some power.

In the summer the heat is intense and rivals that

of Madrid. At that season the upper parts of the houses are no longer habitable. A canopy or toldo of canvass is stretched over the marble-paved patio, which becomes, during July, August and September, the ordinary dwelling place of the family. A few articles of furniture are placed there; and whilst a fountain throws up its jet, in the midst of flowers and evergreens, and the light gateway of open railwork gives ready access to any breeze that may be playing in the streets, the household whiles away the day in Eastern repose. The cool of evening invites them to the river side; and far into the night, the gardens and walks of the Delicias are alive with the hum of conversation and the occasional sounds of the guitar and castanets.

Calmness is a remarkable character of the climate of Seville when compared with most other places. Storms and thunder are rare; and on many a day in the winter, not a breath of air is stirring. The prevailing winter wind is the north, which is generally as nearly a calm as may be, owing, probably, to the influence of the Sierra Morena, which lies in that direction. On the other side, the lofty range of Ronda mountains, although lying at a considerable distance, breaks the force of the south and south-east winds. The same circumstances prevent the habitual occurrence of sudden changes of temperature.

The natives of Seville boast how the day never happens in which the sun does not shine upon their beautiful city. The winter indeed, as the term is understood in more northern countries, does not

exist; and although during the day time it may be chilly in the streets or houses, once out on the sunny walks of the Guadalquivir and there is always a genial, light, invigorating warmth.

From time to time, however, and especially in the summer, there prevails the well-known Levante or east wind. This wind, which at the Mediterranean towns is so agreeable and refreshing, is remarkable here for its sultry and nerve-exhausting properties. Having passed in its course over many leagues of parched land, incessantly developing electricity in the glowing sun-light, it becomes to Seville what the north, in a less degree, is to Malaga, what the west wind is to Valencia. When the Levante blows —the sirocco of these parts—people hasten to close their doors, windows, and every other opening against the entrance of the irritating air. It produces, in those who are exposed to its influence, a burning sensation of the face, renders the whole system feverish and irritable, gives rise to ophthalmias, especially in the case of persons who are predisposed to such affections, and is particularly injurious wherever there is a tendency to nervous disorders. Its effects upon the moral constitution are no less remarkable. During its persistence the number of quarrels and knife-wounds in the town is almost invariably increased; and I was informed, by good authority, that in the administration of justice, allowance is generally made in the case of manslaughter committed under such circumstances. The occasional occurrence of this wind does not however, at all detract from the sanative merits of the climate

of Seville, since no invalid would be counselled to visit the city during the summer, the season in which such winds prevail. But it furnishes a reason, in addition to the heat, why even healthy persons may find it expedient to avoid the city of Figaro during that portion of the year.

The great modern observer of Spanish things, Mr. Ford, speaks of the winter of Seville as being "very wet." Without assuming the part of an apologist, I think, that this expression, which, to English readers, must convey a very gloomy impression, cannot in fairness be applied to the season as it occurs in ordinary years. I have the authority of our excellent vice-consul, Don Julian Williams, who has resided many years in Seville, for saying that the winter which Mr. Ford passed in Seville was an exceptionable one; and information from other sources leads me to the same conclusion. Certain it is, from my own observation, that the months of January and February, 1849, passed away with only two days of rain, and fears were arising for the safety of the crops.

The quantity of rain which falls on the Atlantic side of the Peninsula is, however, much greater than on the Mediterranean, and, in the absence of more precise data, the rain at Seville may be pretty well measured by the quantity, mentioned elsewhere, that falls in Cadiz. Compared with southern Spain in general, Cadiz would be termed wet; compared with the northern part of the country, or with England, essentially dry.

The rainy season at Seville usually commences in

October, November and December being generally dry. It again often falls in considerable quantity towards the end of March and in April, and then, the sun being more effectually shut out by clouds than in the winter, the air feels damp and chilly, although the thermometer is not proportionably depressed.

Turning now to the test of climate afforded by the state of vegetation I will state some facts that came under my own observation in 1848-49, which, I am told, may be viewed as an average season. The process of growth proceeded, although in a diminished degree, throughout the winter. Many kinds of flowers were, at the same time, blossoming in gardens in the open air, and among them, smelling roses were so common, that the gratification of the general taste for weaving them among the hair was indulged in freely by the young women of the poorest class. There were deciduous trees, especially the white poplar (alamo blanco), a great favourite in Spain, the old leaves of which remained green upon the boughs at the same time that the new ones were coming forth. The first great burst of vegetation, corresponding with our March or April, took place in the second week in January. Then the ranunculus ficaria, one of the harbingers of spring, was in flower, and a profusion of thick herbage already covered the banks and waysides. On the 16th of February poplars and willows along the river walk were gay with their new full-blown foliage.

It may be useful now to compare the above account, in regard to Seville, with what was observed

at Malaga at a corresponding period of the year. Journeying from the former to the latter place in the middle of May, the vegetation was found to be much more advanced on approaching Malaga, making every allowance for the four days spent on the road. The cactus was more fully in bloom, the aloe shoots much taller, and instead of shewing merely the unexpanded spike-like stem, had already put out some of the lower flowers. The oleander, the flower buds of which at Seville were still in the state of unopened calyx, all along the banks and bed of the Malaga river from Caratracca were blazing with mature flowers. Then again, as the valley opened out towards Malaga, the golden tint of harvest was spread over the whole country, whilst several fields of wheat had already fallen beneath the sickle. There was nothing corresponding with this at Seville.

The remarks which follow upon the principal diseases to which the inhabitants are subject, were derived from frequent visits to the hospital and from conversation with several medical men with whom I came into contact. I was unable to meet with any published statistics or document whatever on the subject.

The mortality from pulmonary consumption has been reckoned at about 10 per cent., being pretty much confined to those among the poor whose occupations or vices, as happens in most large towns, predispose them to the disease. Affections of the throat and larynx are not unfrequently met with during the warm weather, and are attributed to carelessness in exposing the open neck to currents of

cool air whilst the body is heated. Among children croup is by no means rare, and sometimes it occurs during the summer. Diseases of the chest however do not exist in the proportion they usually present in many other southern climates.

The most common causes of death are low kinds of typhus fever, of which numbers of persons die during the summer, and aggravated forms of the remittent type; the intensity of both being ascribable to causes already pointed out. Intermittent fevers often prevail during the autumn, chiefly in the lower parts of the town, and sometimes they continue throughout the winter.

Rheumatism is very rare. Calculous diseases are said to be more frequent than in most other parts of Spain, where such affections are little known. The quantity of lime in the water is the cause to which this asserted frequency is generally attributed. I do not know if this statement is founded on conjecture rather than observation.

Palsy, apoplexy—and other nervous diseases, are not uncommon. Dyspepsia, when it occurs, is usually of the inflammatory form, rarely atonic. Diarrhœa and dysentery are met with in the summer and autumn; the latter affection however is not a common one, nor is it of a dangerous character. Diseases of the liver of an inflammatory nature are said to be frequent during the hotter months. Dropsy in its various forms is comparatively rare.

Affections of the uterus, both functional and organic, are very common, but their prevalence here as in many other southern towns is due in some

measure at least to causes independent of the direct influence of climate.

Cholera, during the visitation of 1834, was very fatal in Seville. The returns published by the Ayuntamiento acknowledge 7,000 deaths from this cause; truer calculations, as I understand, increase the number to 10,000. It was here, as in most parts of Spain, thought to be contagious, an opinion of which the medical men thought they had many proofs. Many of the villages and neighbouring towns escaped; in Corunna and Alcalá there were none in the former, two only in the latter.

Diseases of the eye are not numerous among the civilian population, unless it be in the summer. The military, however, owing to the quantity of fine dust impregnated with nitrate of ammonia that is raised by their movements, and to the little protection which the eye receives from the sun glare on parade, suffer much from these affections.

A remarkable observation was mentioned to me by Don Jaime Campresio, principal surgeon to the Military Hospital, viz. the kindly manner in which serious wounds, whether from accidents or surgical operation, are found to heal in Seville. This bold and intelligent gentleman has three times amputated at the knee-joint, and each time with success. Articular amputations at the wrist and other large joints, are frequently practised by him, of which he showed me two successful instances. Without considering in this place whether or not it may ever be desirable to operate in this manner, it must be admitted that such fortunate results bear some testi-

mony to the curative properties of the climate as well as to the favourable constitution of the patients and the skill of the operator.

From what has now been said an opinion may be formed of the kinds of indisposition for which the winter climate of Seville is most suited. For that large class of persons who are rather ailing and feeble than suffering from definite disease, for those who are susceptible of cold and damp, and of the many little discomforts which they entail; for others who require relaxation from absorbing occupations, and in the case of those whose constitutions have been broken by past disease, Seville may be regarded as the most agreeable residence in Spain. Its amusements, pictures, church ceremonies, no less than the intensely Spanish character of the people and their customs, will furnish subjects for diversion or study; whilst the cheerful walks and elastic air encourage the habit of regular walking exercise. For pulmonary consumption the climate, being colder and more rainy, is inferior to that of Malaga; but in the majority of cases of bronchitis in which a mild and comparatively unchangeable air is all that is required, especially such as are attended with copious secretion, a residence at Seville will prove highly serviceable. Atonic dyspepsia will do well there, and the same may be said of chronic rheumatism.

For public walks and gardens Seville has few rivals among great cities. Extending nearly a mile along the banks of the Guadalquivir, the mirror in which, as an old Spanish writer says, the fair city

loves to behold herself, are cheerful avenues and plantations of trees, with occasional gardens of roses and oranges. This promenade, appropriately called "Las Delicias," being both sunny and sheltered, and provided with benches, which soon become thoroughly warmed, gives a delicate person the opportunity of passing several hours daily in the open air. There are two good hotels, although their situation in narrow shaded streets is objectionable; and many excellent lodging-houses, in some of which sunny apartments may be found. The bread at Seville is thought to be the best in a country where it is always good.

Since my last visit to Seville an excellent hotel, the "Fonda de Madrid," has, I understand, been opened in the Plaza de la Madalena.

CHAPTER IX.

CADIZ.

Peculiar situation—Longevity of the inhabitants—Diseases—Cases in which the climate may be recommended—Heart disease—San Lucar—Climate of Cadiz—Parts of the town in which to reside—Beauty of marine walks—Further proofs of mildness of climate—Chiclana—Medina Sidonia—Gibraltar.

A PROMONTORY of rock formed of concreted shells running far out into the sea, and varying in height from three to seventeen yards, flanked with walls which are washed on one side by a calm sunny bay, and on the other by the open waves of the Atlantic, and seemingly just large enough for the purpose,—such is the foundation on which Cadiz is built. It would be an island, were it not for a long narrow strip of low ground, which runs from the southern point and connects it with the neighbouring country. Seen a little way off, it appears to rise out of the waves; and a more beautiful object cannot easily be found than this city of clear marbly white buildings, the outline varied by innumerable little house-towers, suspended, as it were, between the brilliant

sky and the more intensely blue water. The Church seized at once the peculiarity of the situation when she dedicated the cathedral to "the holy cross upon the waters,"—"la Santa Cruz sobre las aguas."

The climate of Cadiz, as might be expected, derives its character in an unusual degree from the marine situation of the town. The annual range of temperature is small; the winters are extremely mild, and the summers temperate. The air, for the most part soft and moist, is more relaxing than it is usually found to be in the southern part of the Peninsula. At the same time the climate is more changeable than that of Malaga, Cadiz being open on all sides to the winds without any mountain protection whatever; and although these usually come from the ocean and are damp rather than cold, it does occasionally happen that the Levante, or east wind in summer, and the north-east wind in winter, visit the town with their ordinary character, as exhibited on the land, but slightly affected by the three or four leagues of sea they have passed over in reaching the city. There are, however, as we shall see, some special merits in the climate, whilst, by judicious management, much of its inconveniences may be avoided.

The streets of Cadiz are clean, well paved and drained, and broader than is usual in Spanish towns. The houses are lofty and regularly built, and the white walls, relieved by green verandahs and balconies, which are often glazed and filled with flowers, produce a remarkably cheerful and dressy appearance. Ventilation is well provided for by

the facility which the straight streets afford to the diffusion of the daily sea breezes. The close approach of the water to the walls destroys all artificial sources of unhealthiness external to the town; whilst the attention paid to cleanliness, the frequent showers and the undulating surface of the ground, render it tolerably free from those that are internal.

The same favourable results as to health and longevity, to which I shall advert when speaking of Malaga, are met with at Cadiz; they seem to form, indeed, a general feature of most of those parts of southern Spain which experience the extremes neither of cold nor of heat.

The province of Cadiz comprises a strip of country of small extent, bordering on the Atlantic, and reaching from the Guadalquivir to the Mediterranean. Señor Igartuburu, whose official situation placed all attainable information on the subject within his reach, has published some statistical tables in reference to the movements of the population, from which I have condensed the following results.* His conclusions are derived from an average of seven years (1838 to 1845), and although they embrace the whole province, give a fair view of what happens at Cadiz itself.

The number of deaths during the seven years was 58,100; of births, 86,748; showing the enormous increase of 28,648 in the population. Approximatively there were three births for every two deaths.

* Manual de la Provincia de Cadiz, por Don Luis de Igartuburu. Cadiz, 1847.

An accurate census of the population does not exist; taking it at a low calculation, the deaths have been 1 in 37; the births 1 in 24½. The information as to the duration of life is so remarkable that I give it at full length.

CLASSIFICATION BY AGES OF THE 58,100 DEATHS IN THE PROVINCE OF CADIZ.

Less than 1 year	14,087	From 60 to 65	2,617
From 1 to 5	10,148	65 - 70	2,386
5 - 10	1,716	70 - 75	2,426
10 - 15	1,156	75 - 80	1,932
15 - 20	1,771	80 - 85	1,746
20 - 25	2,362	85 - 90	931
25 - 30	1,970	90 - 95	330
30 - 35	1,744	95 - 99	144
35 - 40	1,847	100 and upwards	43
40 - 45	2,261		
45 - 50	2,073	Total	58,100
50 - 55	2,155		
55 - 60	2,255		

An inspection of the foregoing table, as well as the less demonstrative evidence which observation among the people affords, serve to suggest that there may be some fallacy in the opinion, that the duration of life is necessarily abridged in southern latitudes, when compared with more northern countries. The remarkable circumstance shows itself, that there were forty-three centenarians during the seven years; * of which twelve occurred in Cadiz itself. To every 7,534 of the population, and to every 1,351 deaths there was one centenarian. It

* Señor Igartuburu states that the evidence of age in each case was derived from direct reference to the registers of baptisms contained in the parish and capitular books.

may be added that the attainment of these grey-headed distinctions fell to the women over the men in the proportion of 4 to 1.

In addition to what has just been given, I possess returns, obtained for me from the municipal authorities, through the kindness of the consul, Mr. Brackenbury, setting forth the particulars of the deaths that occurred at Cadiz itself during two years. Their general results, however, are so similar to those derived from the more extended field of observation of the whole province, that I have thought it unnecessary to introduce them here.

I have already stated, that the peculiarly isolated situation of Cadiz exempts it from the influence of those unwholesome agencies which are often generated in the neighbourhood of towns, and that the cleanliness observed in the streets is unfavourable to the formation of impure air in the interior. The diseases that are found to prevail there illustrate these facts.

Of these diseases, pulmonary consumption creates a good deal of apprehension among the inhabitants. Many such cases are to be seen in the hospital, where they present, in the general progress and symptoms, close analogy with what is observed in England, making allowance for a more rapid advance as the summer sets in. According to calculations made during several years, the mortality from this cause is said to be 12 per cent.; but as this number was determined, for the most part, without the employment of auscultation or necroscopic examination, it will be fair to assign many at least of the

cases to bronchitis, empyema, and other diseases more or less resembling consumption. Taking for granted, for the sake of argument merely, that the number represents correctly the amount of mortality from this disease, it would be proper to contrast it with the much higher number, 20 per cent., which obtains in England.

As to the causes of this degree of mortality from phthisis, I invariably found the medical men with whom I conversed on the subject, lay most stress upon such as are of a moral nature, for the possession of which they, as well as common report, consider their town to be conspicuous, even in the south. Youths, scarcely yet released from school, find every opportunity and almost without restraint, to fall into excessive and premature indulgence of the passions. So little indeed are the energies of the mind bent upon any one useful object, or controlled by an intellectual atmosphere, that pursuits of gallantry are followed almost habitually; as if they formed the main business of early life, for which a free license was a sort of natural law. There is no doubt, too, that in the lower portions of the town, inhabited and frequented by the marine population, an amount of vice and moral degradation, and a concentration of facilities for the generation of disease do exist, which it would not be easy to match elsewhere in Spain. These circumstances, therefore, may give a factitious importance to the amount of mortality from phthisis when viewed in connexion with the climate of Cadiz. At the same time, the changeableness, and that sudden, which its semi-insular

situation entails, the chilly and damp air which often blows after a warm day, to be followed, in its turn possibly, by a dry northern wind render an amount of precaution necessary, which few young persons, whilst in the enjoyment of health, are in the habit of observing.

Epidemic diseases seldom visit Cadiz. A species of catarrhal fever or influenza has sometimes prevailed pretty generally, but has never assumed a dangerous character. Cholera, which visited this portion of Spain in 1833 and 1834, found but few victims in Cadiz: when it did attack, however, it was as fatal here as elsewhere.

The yellow fever has on one or two occasions proved a severe scourge to Cadiz, although, since the year 1820, no cases of the disease have occurred. Upon this subject, I cannot do better than quote the information given me by a native physician, at the instance of Mr. Brackenbury, the English consul, whose readiness, in various ways, to facilitate my inquiries, I hope he will permit me to acknowledge. The opinion, in regard to the highly contagious nature of the disease in question, is in accordance with that which prevails generally in Spain. "The yellow fever occurred in the years 1800 and 1819, and on both occasions was very fatal. In 1820 there were a few mild cases. It was imported in vessels coming from the West Indies. In 1827, the disease prevailed in Gibraltar, but did not extend to Cadiz, owing to the rigour with which the French, who were then in possession of our town, caused the sanitary laws to be observed."

Agues, as might be expected, are never found to attack persons who have not been subjected to their causes elsewhere. Dysentery and other kindred affections are rare, and their type, for the most part mild. Fevers of the continued kind are, however, among the most frequent diseases, especially during the moist and warm weather.

It may be observed that the tendency of disease to assume an active inflammatory character is less strongly marked at Cadiz, than in the south of Europe generally.

In applying what has been said to the consideration of the particular affections for which the climate promises relief, it will be at once perceived that, in any case, where relaxation is a prominent feature, Cadiz will disagree This remark applies to the greater portion of the year, during which the soft sea winds prevail, and not to those rarer occasions on which the north-east or land winds blow, when more or less of a bracing or stimulating character is found to exist. Bearing this principle in mind, it will not be difficult to select a large number of invalid or ailing persons to whom the extreme mildness of the winters, the admirable marine walks and prospects, the opportunity for boating, the ready communication with England, and many sources of amusement and interest in the town and neighbourhood will prove strong grounds of recommendation. And although these latter may soon appear tame to those who enjoy the energy and active mind which usually accompany good health, they will accord with the more moderate wants of impaired strength.

In what is called dry asthma, and in other affections of the chest in which irritability is a prominent feature, Cadiz is well worthy of a trial. The same may be said in regard to those organic affections of the heart which creep on so often with advancing life, and which are marked in their earlier existence by dyspnœa, paroxysmal cough, and other symptoms that are referred for the most part to the lungs. In such cases, the great points to be secured are a tranquil life, and, above all, the freedom from any real pulmonary complication. So long as the respiration remains unembarrassed, the heart is placed under the most favourable circumstances for accommodating itself to any defect or physical obstruction of which it may be the seat. The occurrence, however, of any attack of catarrh or bronchitis, which, where there is a predisposition, it is next to impossible to avoid in the cold damp winter of England, imposes a new series of difficulties in the way of the circulation, and prematurely aggravates the mischief in the heart itself. The truth of these remarks may be verified on a large scale in any of our great hospitals. Patients with heart disease, who have passed through the summer and autumn with comparative comfort, find, although lodged in comfortable wards, that their real trials appear with the first cold weather of winter.

Experience and theory would alike be agreed in concluding that, to such patients, great advantages were offered by the mild and generally soothing air, the accessibility of the public walks with no hills to climb, and the "sweet do nothing," the very genius

of the place, as they exist at Cadiz. By spending the winter in a place of this kind and the summers in England, the comfort and longevity of such persons may, no doubt, be very materially promoted; more especially in the case of those to whom a sea voyage is attended with no inconvenience.

In regard to stomach complaints I have had the opportunity of observing, that where there is much weakness of that organ the climate of Cadiz signally disagrees; whilst on the other hand, where the tendency is rather to inflammation or irritation, it will in the long run prove serviceable.

In the treatment of phthisis, Malaga is decidedly to be preferred, although there are some such cases, where nervous irritability proves a prominent feature, in which I have known great relief experienced at Cadiz.

But there is another locality, within two hours steaming of Cadiz, to which the Spanish physicians are in the habit of sending such of their patients as are threatened with this disease. This place, San Lucar de Barrameda, a town of fifteen thousand inhabitants, lies along the south bank of the Guadalquivir near the mouth of that river. The ground upon which it is built is sandy, and the hillocks which rise for some distance about the town and produce the light and wholesome Manzanilla wine, are composed of the same kind of soil. On the opposite side of the river the country for many leagues is flat, but agreeably relieved, at intervals, by native forests of pine trees. Tropical plants have been

found to attain an unusual development at San Lucar; and, in addition to the evidence of mild climate furnished by this circumstance, may be mentioned the highly favourable sanative reputation which the town enjoys both at Seville and Cadiz, and this independently of any particular beauty of situation. The protection of the hills, the dryness of the soil, and the gradual radiation through the night of a large amount of heat absorbed by the broad extent of sandheaps during the day, are the most obvious causes of the healthy qualities of the air.

Several English merchants reside at San Lucar, as at most other towns of this part of Andalucia. Their kind offices, which are most liberally placed at the service of their countrymen, would enable a visitor to obtain tolerably comfortable apartments.

The mean annual temperature of Cadiz is 62·75°, being two degrees warmer than Rome and Pisa, six than Pau, one than Naples, but colder than Madeira, by two, and than Malaga by nearly four degrees.

The temperature of the winter appears still more advantageously in comparison with the Italian climates, being four degrees warmer than that of Rome or Naples, and six than that of Pisa. The same may be said of the spring, the temperature of which being 60·28° at Cadiz, exceeds that of Rome and Pisa by three degrees, and of Naples by two.

The comparatively low annual temperature of Cadiz, the latitude being 36·31°, is to be accounted for by the relative coolness of the summers, the average of which is 73·91°. The mean annual range

is 57·7°, the extremes being 35·7° and 93·4°. The mean diurnal range is 10°, being nearly identical with that of Madeira.

The direction of the wind, as might be inferred from the almost insular situation of Cadiz, is wide in its range, so that there is no one of the eight principal points of the compass from which it may not be expected to blow during several days in the year. Taking an average of five years, the land winds (those from north to south-east inclusive) prevailed on 109 days, the sea-winds on 240 days; the latter in the proportion of more than two to one of the former. This predominance of the sea winds obtains in all the seasons, reaching its maximum in spring, its minimum in winter.

Of all the winds, those from the north and north-east are the coldest, but it is not uncommon during their prevalence for the air to be in a state almost of calm. These are the winterly winds that are remarkable for dry and somewhat stimulating properties; and it is necessary to bear in mind, that they are generally found to blow with considerable force soon after Christmas, and to last for three or four days together. In exceptional years they have been known to prevail even for more than half the winter, but a reference to the table will shew that such an occurrence is not to be viewed as an ordinary one. A thermometer which I exposed in the shade to these high winds, both in December and January, never descended below 44°, even early in the morning.

The westerly winds are the most rainy, and, as a general rule, the southerly are the warmest; but

during the summer months there are occasional visitations of the east wind, which, having traversed a broad tract of heated land, is both hotter and dryer than any other. The latter is also very irritating and produces effects on the constitution similar to those mentioned of the same wind in the description of Seville. During the absence of this wind the summer heat of Cadiz is always moderate.

Cadiz is far more rainy than any part of the Mediterranean coast of Spain ; it suffers also in this respect when compared with Lisbon. The average number of rainy days is 99, the quantity of rain 22·6 English inches. The greater portion falls in autumn and winter, between which, both as to quantity and frequency, the difference is small. Summer, as happens almost uniformly in the south and west portions of the Peninsula, is almost rainless. Still it is only relatively to other parts of the south of Spain that the amount of rain at Cadiz is great. Compared with Rome it will be seen that there are eighteen days more of rain during the year in the latter city, whilst the quantity that falls there is still more in excess. The same may be said of those of the Italian towns generally of which the meteorology is known, with the exception of Naples, between which and Cadiz very little difference will be found to exist. Even at Madeira the quantity of rain exceeds considerably that of Cadiz although the former place has the advantage on the score of infrequency.

It is important to observe also that the rain which falls at Cadiz rarely continues throughout the day, but is made up of showers ; and during the

intervals, often of sunshine, that usually occur, the invalid, by seizing the proper opportunity, may manage to get a walk on almost every day in the year. The porous nature of the soil and rock, and the well made walks and roads, which are almost as little frequented by horses or vehicles as in Venice itself, enable the water to pass rapidly off the surface; so that in a few minutes after it has fallen the footing is comparatively dry.

Independently of the effect produced upon it by frequent showers, the air of Cadiz, as I have already remarked, is, even under ordinary circumstances, charged with a large amount of moisture. This fact has been proved by observation directed to that end, and is rendered evident to the senses in various ways. Such a result is no other than that which reasoning would lead us to expect in a place so situated, where the prevailing winds come at once from the ocean and the clouds which they bear, are not attracted away by neighbouring masses of high land, which have the effect, in some cases, of rendering the corresponding coast land unusually dry. At Cadiz, as we have seen, there is little else than water immediately at hand; and the mountains are so distant, that all trace of them is hidden when the atmosphere is clouded.

An indication of this humid state of the air may be often observed in the wet appearance of the pavement, so as to give the idea that a slight shower of rain had recently fallen, and this not taking place towards evening only, or on those portions of pavement which happen to be coldest, but occurring through-

out the day and confined almost to those localities to which the existing wind has freest access. The sheltered side of a street or square will, from this cause, sometimes be completely dry and frequented by passengers and loungers, whilst the neighbouring wet side is almost deserted. This phenomenon, as it occurs at Cadiz, is by no means necessarily a forerunner of rain. It may be observed elsewhere, but rarely to the same degree.

Other proofs of its existence may be found in the effects which it produces on the animal constitution. Horses which we found to travel rapidly over the dry plains of Portugal, and scarcely moisten their coats, even in the months of August and September, were thrown into profuse perspiration, even in midwinter, by a much less degree of exertion at Cadiz. Similar effects were produced upon ourselves when riding under the like circumstances.

It is not easy to decide which of the seasons at Cadiz is to be regarded as the most healthy, for the extremes neither of cold nor heat are felt, and there are few endemic sources of disease. But I am told, that if there is any difference on this head, the advantage inclines to the side of spring. Sometimes, however, during this season, as I had an opportunity of witnessing, there are many days of alternate sunshine and light showers, which produce a warm, moist, oppressive, atmosphere. Such seasons are usually regarded as unhealthy. They give rise, not unfrequently, in persons of relaxed fibre, to sudden accessions of hæmorrhoids and other proofs of internal congestion. Even upon persons in strong

health, the effects arising from this state of the air are similar to those which are felt on entering a hot-house. If any inconvenience should be experienced from this cause, the proper remedy would be to remove temporarily to Seville.

To sum up; the winters partake the general character of the other seasons in regard to the existence of a moist, temperate, and somewhat sedative atmosphere, broken however by occasional accessions of north wind, which are usually dry and stimulating. For steadiness the preference must be given to Malaga; but although the changes are sudden and frequent, the range is small and the almost insular situation ensures a comparative mildness of the nights. There will seldom be a day in which a considerable degree of warmth will not be experienced out of doors in sheltered places. Fires will be necessary when the land winds blow, but during the prevalence of the soft sea breezes, artificial heat will be generally unbearable even in the month of January. Once or twice during the last twenty years, thin films of ice have been seen at early morning upon puddles exposed to the north, but no snow has fallen since 1819. These occurrences, therefore, are so unusual as hardly to claim consideration in our estimate of the climate.

But in order to derive advantage from the mildness of the winters of Cadiz it is necessary, in a peculiar degree, to be careful in the choice of a situation for residence. A disregard of this precaution has explained nearly all the cases of disappointment with the sanative properties of the climate,

of which I have heard; and is of itself, sufficient, to make all the difference between success and failure, in regard to the object for which an invalid may go to Cadiz.

The two principal hotels, frequented by the English, in the Calle San Servando, command scarcely any sunshine, and are exposed to the unbroken force of the north winds. The situation of the whole of this side of the town is most enjoyable during the summer, but is carefully avoided by many of the Spanish families, owing to its coldness and exposure in the winter.

The best houses for delicate persons are to be found in the central portions of the town; either on the sunny side of the Plazas of General Mina or San Antonio or in one of the lesser plazas, of which there are several. It is always possible to find protection here, from whatever quarter the wind may blow; and there is the further advantage, that ready access may be gained to that particular portion of the marine walks, which happens to be sheltered from the prevailing wind of the day.

For the extent and beauty of these marine walks Cadiz is unrivalled among cities. The wall by which, excepting at its narrow point of junction with the isthmus, the town is surrounded, rises to an average height of twenty feet above the sea. The summit forms a broad esplanade or garden, for the most part on a level with the streets; in consequence of which neither the view nor the ventilation of the houses is obstructed; a result so commonly observable, in the case of other walled towns.

On one side the views over the ocean are limited only by the powers of vision; on the other is the cheerful bay, alive with tall-masted merchantmen and the intense white of the many towns that glitter in the sunshine upon its margins. Far beyond, in the same direction, are the magnificent outlines of the mountains of the Serrania and the huge pile of the San Cristobal, that colossal form which was wont to rejoice the eyes of the ancient mariners of Spain, treasure-laden from the west, with the first view of their native land whilst still far out at sea.

After the sea walls, the chief walk is the alameda or public garden adjoining them on the north side. A more cheerful or delightful promenade cannot well be found. It is most carefully kept and provided with benches, and will furnish ample opportunity for the study of the far-famed grace and winning ways of the fair Gaditanians. There is no rambling into green fields at Cadiz; and the equestrian, for a short ride, must be content with such variety as the isthmus, seldom more than half a mile broad, will afford him. An excellent carriage road, however, runs through its centre, and frequent steamers to Ports Royal and St. Mary, &c., offer, in fine weather, favourable opportunities for short excursions. Jerez, the centre of the sherry wine trade, and Rota, producing the wine known among us as Tent, are both very accessible.

Good house accommodation is easily found at Cadiz; the markets are well supplied, and the variety and excellence of the fish are proverbial. Large

quantities of spring water are daily brought from the Puerto, Cadiz having no supply of its own ; but many of the inhabitants make use of the rain water, which is conducted from the flat house tops into algibes or receptacles.

A luxurious club or casino, where some of the daily London papers may be seen and to which strangers are admissible, a regular steam communication with England, a favourable feeling towards the English, and such social acquaintance as the visitor's knowledge of Spanish may enable him to cultivate, constitute the remaining attractions of Cadiz, which after all would soon prove monotonous to those persons to whom its mild climate would be but a secondary recommendation.

It may serve still further to illustrate the nature of the climate which an invalid may expect to find at Cadiz, if, in conclusion, I subjoin one or two daily observations in reference to the temperature and state of vegetation made on the spot by myself during the winter. Such testimony, although not possessing the value of the more precise evidence already given, easily appeals to our experience, and furnishes ground for ready comparison with other places of our acquaintance.

December 20. High winds from the north ; perfect shelter in the square of San Antonio. Thermometer in the shade, exposed to the north, at 8, A.M., 44° F.

Dec. 30. An almost perfect calm during the past four days ; the air extremely mild and soft. Sat

with the windows open at breakfast although our own room looked to the north. Fires are out of the question, even in the evening, and people sit out until bed-time in the plazas without cloak or overcoat.

Jan. 4. Continued mild weather; the windows remain open all day. At 10 A.M., yesterday, the thermometer, exposed to free air from the north in the shade, was at 67°; at 1, P.M. 68°; and at 10, P.M., 64°. In the alameda gardens, open directly to the north winds, lavender, daturas, scented roses, mignionette, wall-flowers, stocks, snapdragons, and other flowers, are now in full blossom in the open air, the leaves being green and spring-like.

Jan. 15. In the square of General Mina, the orange trees continue as they have been throughout winter, covered with fruit and flowers; and the vines, which form a trellis canopy on three sides of the square, are still covered with leaves, although they have mostly acquired the red autumnal tinge. This speaks not only for the mildness of the air, but for the absence of high winds in this neighbourhood. In the square of St. Anthony also, the plane, elm, acacia, poplar, and other trees, are only now reluctantly parting with their leaves.

Four leagues off is Chiclana, a favourite summer residence and resort for invalids of the Cadiz people. It stands upon a gentle eminence rising above the low salt water marshes of the Isle of Leon. Sandy pine woods stretch away from it towards Medina Sidonia; and gardens, orange plantations,

and vineyards, adorn the immediate neighbourhood. It is famous for a pure air, and for its mineral waters. The bath establishment is on a large scale, and luxuriously fitted up. But my chief reason for mentioning Chiclana is to speak of the vegetation which I observed there on the 13th of January. In one garden on a hill slope, with a northerly aspect, not only were violets, jessamine, geraniums, lavender, &c., in flower, but there were many almond trees in full blossom, a few of the new leaves of which were beginning to appear, as is their custom, before the flowers have fallen off. The gardens, generally, abounded with flowers. Chiclana, besides being as much exposed, lies considerably higher than Cadiz.

In regard to the almond trees, I may mention that at Rome, in 1852, they did not begin to blossom until the last week in February, nearly six weeks later than at Chiclana.

Three leagues beyond, the town of Medina Sidonia, a conspicuous object for a long distance around, crowns a lofty hill. This town possesses a widespread reputation for the restorative properties of its air in cachetic complaints, and is resorted to by many persons from Cadiz and Seville; especially in those cases in which a protracted mercurial course is considered necessary. A hospital is established for the admission of such patients, where they undergo inunction. There is, at present, but indifferent accommodation in the town, the only attraction of which, for an Englishman, will be the

extensive and exciting view that it commands. At the same moment the eye looks down upon the hard-fought field of Barrosa, lying not far below, and the long headland of glorious Trafalgar, pushing its stern front far into the ocean.

GIBRALTAR.

Gibraltar possesses the advantages of great beauty of situation, of frequent communication with England, of an English population, of charming public walks and gardens, created out of a sterile rock; of skilful medical practitioners, and of the opportunity of attendance at the public service of the English Church. This latter ground of recommendation exists in the case of two other places only in the Peninsula, Lisbon and Oporto; but at others of the towns, prayers are read in the houses of the consuls.

The situation of Gibraltar is particularly picturesque. The huge isolated rock, on the western face of which the town is built, seems to form but one side of a great lake, of which, the grey bluff mountains of Barbary, and the sierras that stretch beyond the bay of Algeciras, form the others.

Still, I have but seldom met with an invalid who spoke favourably of the climate. The prevailing winds are the east and the west; and one or the other often blows for weeks at a time. The former winds are highly charged with moisture, so much so that the whole rock is sometimes enveloped in a dense mist. They are not only relaxing in their effects, but greatly derange the nervous system and are a fruitful source of dyspepsia. Nor are these

effects confined to sensitive persons only; I found that it was not unusual with those who had been long resident on the rock to suffer severely from these winds. Even the monkeys, which inhabit the upper part of the eastern side of the rock—the only spot in Europe where they are to be found in a state of nature—change their residence to its western face, whenever the Levante blows, in order to escape the effects of that wind. It is on such occasions only that these animals are visible to the inhabitants of the rock.

Gibraltar, during the winter, offers a mild residence, but it is neither so mild nor so sheltered as Malaga. It is not a good situation for consumptive patients, but for the large class of valetudinarians who wander from place to place, it possesses sufficient attraction. If it were found to disagree in any case there are constant opportunities for continuing the journey in another direction.

CHAPTER X.

MALAGA.

The mildest climate in Europe—Situation, &c.—Climate—Compared with Madeira, Rome, Nice, &c.—Infrequency of rain—Vegetation almost tropical—Proofs of salubrity—Longevity of the inhabitants.

THERE is no place in Spain, nor in the whole of Europe, so far as our present information goes, that possesses a climate at once so mild and equable, with so little variation from day to day, and from day to night, as Malaga. Situated in the 36° 43′ of latitude, it is far to the south of any portion of the Italian Peninsula, and even of Sicily and Greece. In addition to this advantage it will be found to possess, to a great extent, those favourable physical conditions of the surrounding country which give to a southern latitude its proper value.

Winter indeed can hardly be said to exist; a perpetual spring, during which vegetation proceeds unchecked, connecting the autumn of one year with the summer of the next. The natives, fully alive to the delicious character of their climate, spend a

large portion of their lives, and seek their amusements in the open air; whilst many of the poor, the whole year through, care for no other bed than such as they can spread after nightfall upon the public walks. Spanish writers vie with each other in describing the praises of Malaga, which seems to them a species of paradise even in Andalucia.

> "Aqui no llega el frio ni la nieve,
> Y corren apacibles de continuo
> Los maritimos zéfiros suaves,
> A recrear los hombres dulcemente."

As this is the winter residence which seems to me pre-eminently, among the chosen places of Europe, to promise to the invalid who is threatened with, or already the subject of, pulmonary consumption, in its earlier stage, such relief as change of climate can accomplish for him, I purpose to enter as fully into a consideration of the subject, as the materials at command at the time of my visits permit me. These visits, three in number, were made during the winter and spring; and the information about to be detailed was derived from personal observation, from visits to the hospital, and from conversation with the natives, and with invalids who had passed some time at Malaga for the benefit of their health. My acknowledgements are especially due to the British Consul, Mr. Mark, whose kind and zealous assistance placed at my disposal a valuable report that had been drawn up by his late father, and procured for me, from the authorities of the city, official documents upon the mortality, &c.

Like many other Spanish towns on the Mediter-

ranean, Malaga is built upon one of those fruitful, plainlike tracts of ground which occur at intervals along the shore, having the sea on the south side, and a more or less complete semicircle of mountains in the opposite direction. To the north and west the view is bounded by an almost continuous chain of hills, about three thousand feet high, which rise at a distance of from one to two leagues from the town, and are formed up to their summits into vine terraces. Behind these, and separated from them by deep valleys, is a still higher sierra ; this arrangement seems to act as an effectual barrier to the cold winds which, during the winter, come down from the summits of the loftier mountains, and which are either arrested or modified by the secondary chain under the protection of which the town lies.

A lower range of undulating vine-covered hills branches off from the first-mentioned chain, and running down to the water, approaches close to the town on the east side. A tolerable, although not a complete, screen is thus afforded in that direction.

To the south the houses slope down to the water's edge ; and the mountains are sufficiently far removed in the west to permit the full influence of the afternoon sun.

The older portion of the town, a labyrinth of very narrow and winding lanes and tall houses, where the duties of the scavenger are imperfectly performed, gradually ascends after the Moorish manner, upon rocky ground, towards the alcazar or castle. The newer and level portions, however, are built upon a sandy soil that has been reclaimed from the sea, which is rapidly retreating from the shore.

Through the centre of this latter quarter runs the alameda, a noble promenade between forty and fifty yards wide, planted with acacias and adorned with statues and fountains. On either side of the walk are houses conspicuous for their cheerful appearance and elegance; and these, as well as others in the short avenues running from the alameda to the sea, having been recently built, have had proper attention paid to convenience and ventilation. Indeed, the whole ventilation of this immediate district is admirably provided for by the unusual breadth of the streets and by their proximity to the sea; so that, as the mid-day breeze springs up, gentle streams of air play freely among the houses.

In this part of the town the invalid should take up his residence, preferring those houses which have a southerly aspect. There is here a cheerful sunny walk, upon which he may at once step out from his door as if it were his own garden. The next best situation is to be found upon the quay; which would be even preferred, probably, by those who take an interest in the bustle and movement of a port.

The little plain, or Vega as it is locally called, at the south-east extremity of which Malaga lies, is a succession of gentle undulations, gradually rising towards the mountains, and forms one continued garden of oranges and lemons, palms, corn, almonds, figs, olives, and other choice productions of these climates. Its soil is partly alluvial, and partly sandy; there are no standing waters, and it is worthy of remark that, unlike many similarly situated

tracts of land in Spain, there is here no general system of irrigation, which, however favourable to vegetable production, is decidedly objectionable in a sanitary point of view. Such irrigation as there is, is confined to the orange and fruit grounds, and the water being raised, for this purpose, by the toil of the ox or the mule, at the noria, is necessarily limited in supply. The corn crops, indeed, are, as I was assured, never known to fail, and being indebted entirely to nature for the amount of moisture which they receive, furnish a proof that the neighbourhood of Malaga is less dry than portions of the provinces of Murcia and Alicante, which border upon the Mediterranean, where the rich soil, unless artificially watered, is practically barren.

A considerable river, the Guadalhorce, enters the plain, at its north-west extremity, from among the mountains, and falls into the sea about three miles to the west of Malaga. In addition to this there is a small stream, which, washing one end of the town, separates it from one of the suburbs. This stream, which, generally speaking, is little else than a rapid brook flowing in the centre of a wide bed, performs to some extent the part of a sewer.

From what has now been said, one might fairly predict that the situation of Malaga would be favourable to the production of that mild and healthy climate, which is, in reality, found to exist there. The great attractions of its landscapes, moreover, —a well broken shore, numerous ranges of mountains, reaching from the lowly vine slope to the stupendous sierras of Granada, a wide expanse of

sea, bounded by the distant outline of the Barbary mountains, and the sunny plain itself, abounding in pleasant groves and gardens, provide another element in what is required by foreign visitors of such places. The walks and drives, also, are both numerous and varied; and it will be observed of Malaga, as of most other Spanish towns, that you can ramble forth into the country, without being hemmed in by those long lanes of high stone walls, which so hopelessly obstruct the view in the neighbourhood of many of the towns of Provence and Italy.

The climate of Malaga, if we except its temperature, is chiefly remarkable for the absence of any strongly marked or positive qualities; and may be said to hold an intermediate position, in respect to its effects upon the constitution, between the oppressive and subduing influence of Madeira and Rome, or the stimulating, bracing character of Nice. It is moist compared with the latter, dry compared with the former. Its greater proximity to the Gibraltar Straits renders it also less dry than several other parts of the Spanish Mediterranean coast. At the same time the character of the air inclines rather to dryness than to moisture.

Temperature.—The mean annual temperature of Malaga is 66·11°, being warmer than Madeira by two degrees, than Rome and Pisa by six, than Nice by seven, than Pau by ten, than London by sixteen.

On the other hand, it is colder than Malta by one, and Cairo by six degrees.

Compared with other places in the Peninsula, it is warmer than Lisbon by five, and than Cadiz and Valencia by three degrees.

This comparative result as to warmth is due, in some measure, to the intensity of the summer heat, but chiefly to the mildness of the winter.

Thus the mean winter temperature of Malaga is 54·41° ; being six degrees warmer than Rome, seven than Nice, eight than Pisa, thirteen than Pau, fifteen than London. It is, however, six degrees colder than Madeira, four than Cairo, three than Malta.

It may give a clearer idea of the mildness of the winter of Malaga, if we bear in mind that, in regard to temperature, the month of January, in that place, corresponds with May in London, with June in Edinburgh, with April in Pisa and Rome.

The mean temperature of spring is 62·55°, being identical with Madeira and Malta, but five degrees warmer than Rome and Pisa, and eight than Pau. The summer and autumn temperatures are 79·38° and 68·67° respectively.

The mean annual range of temperature is 49°, being many degrees less than that of any other place on the continent of which we possess records; the range at Pau being 68°, at Rome 62°, at Nice 60°. It is surpassed, however, in this respect by Madeira, the range of which is only 31°.

The mean daily range, which is a point of far greater importance to the invalid, inasmuch as it is that by which chiefly the essential feature of unchangeableness is to be tested, in Malaga amounts

to 4·1° only. In this particular we find the climate superior to any of those that have been hitherto noticed; the daily range of Madeira being 9½°, of Rome 10°, of Nice 9°. In connexion with this circumstance, it may be observed, that it is far easier for a person in delicate health to guard against variations of temperature from day to day, where they exist, than from similar variations at different periods of the same day.

The mean difference between the temperature of successive months is 4·95° for the whole year. For the winter months only, in which we are chiefly concerned, it is 2·16°.

I have already referred to the constancy of the temperature of Malaga throughout the twenty-four hours; but, perhaps, its little changeableness from day to day is even more remarkable. On inspection of the tables from which my conclusions have been drawn, the recurrence of the same degree of warmth and of the same winds, in the morning, noon, and evening observations of several consecutive days, happens so frequently, that the impression of some error having crept into them at once suggests itself. I was assured, however, on mentioning the circumstance to a gentleman, of whom I shall make further mention, who had himself carefully registered the temperature during six contemporaneous months, that his own figures showed the same peculiarity and fully corroborated, in other respects, the correctness of the data which I have employed. Mr. Mark, the consul, also, among others, told me that his own observations lead to the same result.

Although abundant corn and other crops are produced in the plain of Malaga without artificial irrigation, rain is but of rare occurrence, falling approximatively (for an exact account does not exist) on forty days in the year. Observations made at early morning, noon, and evening, during three years, show that, on an average, rain fell on sixteen days in the year, at one or other of those periods. On one day in each week, however, no notes were made. Extending, therefore, the calculation in the like ratio to the remaining fifty-two days, the number would be increased to nineteen. An independent register, kept by an English visitor, for the year ending March 1848, the results of which were kindly communicated to me, differs but little in the number of rainy days, viz. sixteen, from that which I have given.

Neither of these statements, however, includes the rain that fell during the night, for which more than sufficient allowance is made, in assuming the whole number of rainy days in the year to be forty.

In general the month of May has the largest share of these. The remainder are divided nearly equally among the winter and autumn months, whilst July and August are absolutely rainless.

Still, owing to other causes, the air is so far charged with moisture, that in those times of the year, when the evening temperature is more than usually cooler than the day, a copious fog is seen to cover the plain as the sun leaves the horizon.

The Malaganian who passes his life in his own town, has no practical acquaintance with ice, be-

yond such as he may make at the confectioners. The consul, speaking from an experience of twenty years, told me that during that time there had been but one transient visitation of ice, so slight, indeed, that it was barely perceptible.

In regard to the barometer, the same indisposition to change is observable as in the case of the temperature. Perhaps the most practical inference which an inspection of the tables discloses, is the fact, that as many as twenty consecutive days not unfrequently happen, during which the amount of atmospheric pressure, morning, noon, and evening is identical. Its mean point lies between twenty-seven and twenty-eight.

I have before mentioned, that the protecting chain of mountains around Malaga is incomplete at one point, to the north-west, where the river Guadalhorce enters the plain, at a distance of three leagues from the town. From this quarter the wind, known locally as the terral, does occasionally blow. It is dry and stimulating, apt to be accompanied with dust and depresses the sensible temperature. In ordinary winters, however, its occurrence is comparatively rare.

Here the remark, which I have before made, may be applied, that no climate is absolutely good or perfect for the purposes of the invalid. It is good only in comparison with others that are inferior, such for instance as the climate that may have been left behind.*

* The prospect of discovering a climate that will fulfil all that can be desired is almost hopeless. Still it may be asserted that Malaga will not

When such winds blow, here as elsewhere, we must be content to frequent those spots only that are well protected from their influence; and it will be useful to remember, how trifling is the restraint thus put upon us, compared with what it would have been through the cold, windy, rainy days of a long winter in England. And it is the more desirable to bear this in mind, because a residence in more favoured climates than our own is apt to create so much fastidiousness that a brief suspension of fine weather, may make us bolder grumblers than the natives, who have no experience of the contrast of more northern countries.

Next to actual admeasurements, such as those that have been given, there are no natural signs so valuable for estimating the mild temperature of any locality, as the habitual production of delicate plants, and the early ripening of cereals, &c.

In this point of view, the vegetation of Europe

afford grounds for disappointment, similar to those referred to in the following account, which was given me at Cadiz in January, 1849, by Commodore B., at that time commanding the American Squadron in the Mediterranean. He had just arrived from Madeira, where he had passed, not only the last three, but considerable portions of the last fifteen, months, for the relief of slow consumption. He said that for three months past the weather at Funchal had been more frequently rainy and chilly than fine, besides being very changeable; and for several weeks the high mountains near Funchal had been covered with snow, the cold air descending from which influenced very considerably the temperature of the town. In summer the heat was unbearable in the low country.

This gentleman spoke also of the absence of level walking ground and of the general dullness of the place. He found the climate of Cadiz more agreeable than the one which he had left.

may be fairly said to attain its culminating point at Malaga and the strip of coast country extending thence in an easterly direction. At Velez Malaga in this locality is the favoured spot, the only one, I believe, on the continent of Europe, where the sugar cane, not only flourishes in the open air, but has long been a plant of extensive and profitable cultivation. The same may be said of cotton, which is grown at Motril. This plant, however, requires a less degree of warmth than sugar, and is cultivated even at Naples. Indigo and the sweet potato are also grown.

In regard to more ordinary productions, the country presents a striking scene of exuberance and fruitfulness. Under the influence of a constant climate and an early spring, the vegetation of more northern countries attains here an uncommon development. The almond (known in commerce as the Jordan almond), and the luscious grape of Malaga have spread its reputation throughout the world, and are familiar examples of what has just been stated.

Throughout the winter, hedges of geraniums, as common there as the quickset with us, continue to blossom upon the public walks, where they flourish with weed-like luxuriance.

Malaga la hechicera,
La del eternal primavera,
La que baña dulce el mar
Entre jasmin y azahar.

On the 18th of April I saw several fields of wheat in full ear; barley had already been in that state some time, and two or three fields of that grain

were far advanced in the golden tint of harvest. Wheat is usually ripe and cut in the middle of May. All this it must be recollected takes place without the aid of irrigation.

It is some proof of the little attention that has been hitherto given by travellers to the climate of Spain, that the western half of the Riviera in Italy and the country around Cannes and Nice are sometimes spoken of as the garden of Europe, an opinion, founded chiefly, upon the ready growth there of the aloe, the palm, olive, &c. It is certain that the aloe attains to a great size in those places, and the olive, owing to the uncontrolled manner in which it is allowed to grow, exhibits a development of trunk and branch and luxuriance of foliage rarely seen in other countries, where it is so common a practice to pollard that tree. But the last mentioned tree requires rather a dry than a very warm climate; for we find it even in the open plains of Languedoc and Provence, exposed to the biting influence of the mistral. Nay, the olive may be seen to brave the severe winters of Toledo on the lofty plateau of central Spain, nearly 3,000 feet above the sea, as well as in the bleak plains of Aragon, and the valley of the Vierzon, among the mountains of Leon. The surer test of climate, as regards the olive, will be found in the size of its fruit, a condition pre-eminently fulfilled by the valley of the Guadalquivir and the Mediterranean portions of Andalucia.

In regard to the orange, it is not so much the question of its living, as of its bearing good fruit, that will throw light upon the character of a climate;

and the same may be said of the palm-tree. A few specimens of this beautiful tree may be seen at Toulon, Hyères, Cannes, Nice, and in the Riviera at Bordighera and San Remo; but the trees are of very moderate height, and at the latter place only, as I was assured at these various places, bear imperfect dates. Such as it is in these districts, I have seen the palm at Ponte d'Eume, in Galicia, to the north of Corunna.

But these advantages of climate and situation would be of little value in regard to the present inquiry, if unattended by a corresponding influence upon the health of the inhabitants.* Now Malaga is a decidedly healthy town. The late consul, W. Mark, Esq., a most competent authority, bears the following testimony upon the subject. Writing in 1829, in the report of which I have already made mention, he says, "The salubrity of Malaga is surprising and scarcely credible. The population is dense, there is a great deal of misery; the prisons are crowded, and with a depôt of convicts (about six thousand), a badly conducted police, the wonder must be that it is not a sink of pestilence. Instead of that it is, under all these and other circumstances equally unfavourable, the healthiest place perhaps in the world. I speak from thirteen years' experience. Sometimes two and three days pass without a single death throughout the city."

* I had reason to hope, before leaving Malaga, to have succeeded in obtaining some statistical information in reference to the prevalence of particular diseases. In this I was disappointed; and the notes which I did make on the subject, in anticipation of fuller particulars, are too meagre for publication.

Since 1829 great improvements have taken place, in various ways, in the sanitary condition of the people, and the remarks then made would, so far, be still more applicable to the present time. Such indeed was the uniform tenor of all the opinions I heard expressed upon the subject.

The absence of the extremes and of sudden variations of temperature, coupled with the general salubrity of the air, and the abundance and cheapness of food—excellent bread, fish, oil, and sweet potatoes—enable the poor to dispense with many of the wants of less favoured climates, and to live well, for their condition in life, at a most trifling cost. Want and cold, therefore, the two severest scourges of the poor in northern countries, deal very gently with the Malaganians; and, notwithstanding much that still remains in their town to counteract these advantages, the people generally attain to a longevity, as I shall presently show, to which few parallels can be found elsewhere. An additional reason in explanation of this circumstance may be mentioned: the fact, that the continued fineness of the weather suffers the people to pass a very large portion of their time in the open air.

The statistical information which I am able to adduce, in support of these statements, is contained in the following tables, which I have condensed from more detailed particulars. The results of the first two years were published in the "Avisador Malagueño;" the last were obtained for me through the kindness of the present consul from official sources.

MORTALITY TABLES OF MALAGA.

AGE.	1846.	1847.*	1848.
Below 1 year	549		444
From 1 to 5	312		492
„ 5 — 10	29		88
„ 10 — 15	28		24
„ 15 — 20	59		60
„ 20 — 25	101		128
„ 25 — 30	81		92
„ 30 — 40	156		148
„ 40 — 50	154		156
„ 50 — 60	140		204
„ 60 — 70	134		224
„ 70 — 80	118		120
„ 80 — 90	61		84
„ 90 — 100	25		20
100 and upwards	10		
Total Number of Deaths.	1,957	2,643	2,284

The population of Malaga, during the last few years, has increased very rapidly, and is now generally considered to reach at least 85,000. The ratio of mortality deduced from the above table will be, consequently, in whole numbers, 1 in 37. The average duration of life is approximately 28 years, as shown by the same table.

Favourable, on the whole, as these results are, it will be necessary, before a comparison can be fairly instituted between Malaga and other places, in regard to mortality, to take into consideration one obvious source of fallacy: viz. the unusually large

* The classification, this year, is based on no uniform plan, and, in one quarter, is deficient.

proportion of deaths taking place in infancy and early childhood. This is a common result wherever the system of the abandonment of infants (niños expositos) by their mothers, is practised to so sad an extent as in many parts of the Peninsula.

Thus we find that in Malaga 23·4 per cent. of the population die during the first year of life, and 42·3 per cent. during the first five years.

Another circumstance to be borne in mind, in regard to the mortality of early manhood in Malaga, is the existence of a large convict establishment and of a large garrison in the town; including together seldom less than 6,000 adults; generally a much larger number.

The tendency of the population is to increase rapidly. In the years 1846 and 47 there were 6,309 births and 4,600 deaths. Showing an excess of births over deaths of 1,709 in two years.

Without pushing the inquiry any further, and taking the evidence derived from it for no more than it is worth, the salubrity of Malaga is placed in a favourable position.

But the tables disclose, further, a fact of greater interest—the extraordinary longevity of the people. Mr. Mark in his MS. report says, referring to this subject, "Ten died last year (1828) (in preceding years from 6 to 8) of 100, 102, and 105 years, and many others from 95 to 100. Persons of from 80 to 90 years of age may be seen going about the streets with the full use of all their faculties." I have, myself, witnessed in the Casa de Misericordia, as well as in the town, many similar instances; and

all that I learned from various persons in Malaga went to show, that the opinion commonly held there upon the subject is in accordance with the result which an inspection of the table discloses.*

* On the 26th December (a day selected at random), there died in Malaga, eleven males, of the ages 105 years, 80, 60, 47, 26, two of 22, one age unknown and three infants; and four females whose ages were 98, 86, 80, and 73. Eleven persons with a collective age of 699 years.—See official return in "La Cronica."

CHAPTER XI.

MALAGA.

Malaga continued—Summary of climate—Diseases in which beneficial —Provisions, &c.—Torre Molinos—Summer residences—Alhaurin—Baths of Caratracca—Ronda—The siesta in Spain—Granada—Cordova and the Sierra Morena.

It remains to consider, briefly, the practical application of the foregoing remarks. Calm, mild, and equable, free from the extremes of dryness or moisture, the climate of Malaga is well fitted for promoting a steady and uniform action of the different functions of the body. It affords at the same time the opportunity of escaping, in great measure, from those many causes of fresh disease and of aggravations and relapse into old ones, which are almost inseparable from cold or unsettled climates.

The chief advantage therefore which Malaga offers us, will be in the treatment of diseases of the organs of respiration. And theory will only suggest what actual observation has to some extent demonstrated, that the negative or *medium* qualities of the climate enable it to embrace within the sphere, wherein it promises to be useful, various modifications, and

even opposite conditions of the same disease. There are very many cases for instance where the stimulating air of Nice, or the subduing influence of Pisa or Madeira, are found to be hurtful, that would derive much more benefit from the climate of Malaga.

Pulmonary consumption in its period of threatening merely, or occasionally in that limited subsequent stage, when alone it is prudent for the invalid to remove from home, is the disease for which Malaga is particularly suited. If the climate of southern Spain is destined ever to find favour with many of the invalids who leave our shores so affected, it will be to Malaga that attention will be directed. Mr. Mark, whose experience extends over several years, tells me that many persons from England, affected in one or other of the above-mentioned ways, who have at different times spent a winter in Malaga, have almost uniformly experienced considerable benefit. And it is not unusual to find among such persons several, who, after having visited the more highly lauded places of resort in other countries, are able to express their preference for Malaga.

One remarkable such instance I found in a gentleman of delicate general health and phthisical conformation, who had quitted England on account of hæmoptysis. He had spent one winter in Madeira, but spoke in strong and grateful terms of the more decided comfort and health which he experienced at Malaga. In another such case I heard of a similar preference in comparison with Palermo.

Indeed, judging from what I have seen of invalids, who either were or had been at Malaga, as well as

from the accounts given me by others, I should say, in using a very guarded term, that the general feeling on the part of those who have spent a winter there is one of great satisfaction.

Of various other ailments such as bronchitis, asthma, laryngitis, rheumatism, dyspepsia, scrofula, and general delicacy of constitution, it will be unnecessary to do more than point them out as likely to be greatly benefited by the air of Malaga. Of chronic laryngitis indeed, and chronic irritation of the throat, accompanied with more or less complete loss of voice, I have myself known cases of marked relief or cure, and I have heard of similar favourable results that have followed a residence at Malaga in other instances of the same affections.

It will of course be borne in mind in the recommendation of a change of climate in the above diseases, that in those exceptional cases where the disease possesses a very decidedly unmixed and pronounced character, such for instance as a pure atonic dyspepsia or simply relaxed largely secreting bronchitis, more advantage would probably be found in a drier and more stimulating climate. In such cases Montpellier, and especially Nice and the sea coast of Provence from Cannes to Toulon, would be more useful.

After saying so much that is favourable it will be proper, in this place, to refer again to the fact, that the wind already spoken of as the terral does occasionally blow during the winter with considerable force, and may last for a couple of days at a time. It is, however, of rare occurrence and cannot fairly

be viewed as an important objection to Malaga until we have succeeded in discovering, elsewhere, some favoured spot that will fulfil all that can be desired, without any drawback whatever,—in fact, to use the language of the day, a model climate.

The terral is found not to depress the thermometer, but it somewhat diminishes the sensible temperature, and it is apt to give rise to a feeling of restlessness and of vague uneasiness in the chest, when that part of the body is predisposed to disturbance.

Some valuable information was given me at Malaga by an observant and intelligent clergyman who had passed two winters there, on account of some threatening symptoms in the chest which had created alarm among his friends. The benefit which this gentleman had derived from the climate was very great. He had carefully observed the temperature and state of the weather daily throughout one winter, and so far was able to corroborate the perfect faithfulness of the data which I have employed. During six weeks in the mid-winter he found a fire comfortable at morning and evening, but never necessary in the day-time. On one occasion only, when it rained for two consecutive days, he was prevented by the weather from taking his usual walks. Neither snow nor hoar-frost had fallen, and his thermometer had never descended below the temperate range. Still the air, once or twice in the early morning, felt as if there might be a frost preparing. For the first few days after his arrival, in the autumn, he found the climate a little relaxing

and tending to excite perspiration, but without being oppressive. These effects, which I understand have been experienced by other visitors, soon passed away. It is probable they would not be found to happen in the case of those who should arrive at Malaga a little later in the year.

Evidence has now been produced—in the mildness and constancy of the winter climate, in the state of the vegetable kingdom, in the longevity and health of the inhabitants, and, to a certain, although as yet a limited extent, in the beneficial results experienced by invalids who have resided there, of a nature highly favourable to Malaga. Further inquiry will, there is every reason to believe, still more exalt its merits in comparison with many other localities, which from having had attention early turned to them, or from lying in the great routes that are usually taken by those travellers who are seeking other objects than the restoration of their health, have hitherto possessed an almost exclusive monopoly of the votaries of Hygæia.

It may be as well to state that there is a regular and frequent steam communication with England, and that the voyage will require from seven to eight days. By taking boat at Liverpool the passage may be performed without change of vessel. The land journey cannot be recommended to the delicate, owing to its great length and the necessity of travelling long distances before reaching a resting-place. It may however be made from the French frontier, throughout, on wheels.

The markets are well and cheaply supplied; good

lodgings are to be had, and I will add, for the information of the timid, my belief, that in no part of the continent will the English visitor experience greater personal security or more real kindness and consideration than in Malaga.

The English hotel on the Alameda I have already referred to ; in point of comfort and convenience for invalids it is quite equal to any hotel in Italy.

The service of the Church of England is performed by a chaplain in the house of the consul.

Since the foregoing account was written, I have seen some interesting observations on the climate of Malaga by an invalid* who passed a winter there (1849-50). Notwithstanding the season was colder than usual this gentleman formed a most favourable opinion of the climate, after a forced residence of several winters near the Mediterranean. Among its great characteristics he mentions the favourable nature of the two most trying months in the year, February and March.

"The advantages of Malaga as a residence for invalids are the dryness and brightness of the air : a brilliant sky and perpetual sunshine cheer the spirits ; rain falls on only a small number of days, and a thoroughly wet day is of very rare occurrence. The country around is very pleasing and affords opportunity for interesting walks and rides and for the exercise of the pencil. Of society there is likely to be enough for invalids."

He speaks of the single fault being the wind to

* A. Mc. Dougall, Esq., vide "Medical Times," Feb. 1851.

which I have already referred. It seems to have been more than usually prevalent for he alludes to the winter as "by no means a favourable one." "There is a walk sheltered from this wind along the coast to the eastward."

This gentleman further states that the thermometer in his bed-room during the winter never sank below $57\frac{1}{4}^{\circ}$, and very rarely below 60°.

TORRE MOLINOS.

In the case of some invalids, whose system requires bracing, it may be desirable from time to time to change the air of Malaga for one which, without any very material alteration of temperature, possesses a more tonic quality. An opportunity of so doing is offered at Torre Molinos, a little village lying to the west of Malaga two leagues. It is open to the south and built upon rocky ground, at the foot of some mountains, between two and three hundred feet above the sea, from which latter it is distant half a mile. On one side of the village are some dry breezy wastes, covered with aromatic herbs, and well adapted for exercise.

The climate is remarkably salubrious and invigorating; so that an appetite lost in Malaga is often regained at Torre Molinos. The situation is however somewhat colder and more exposed than Malaga. It has been long known as a place of resort for invalids; and, in addition to its eligibility in the cases referred to above, may be recommended to persons suffering under any form of cachexy or

anæmia, whether in connexion with chronic rheumatism, old paralysis, the abuse of mercury or allied affections, as well as in states of protracted convalescence following severe disease.

A villa has been comfortably fitted up, for the reception of invalids, by Don N. Parodi, who, from a long residence in Gibraltar, has made himself acquainted with English wants and habits.

SUMMER RESIDENCE—ALHAURIN AND RONDA.

Persons who are in the enjoyment of good health will find no difficulty in supporting a summer heat even much greater than that of Malaga, tempered as the latter is by regular sea breezes. The invalid however should never make the experiment. If it is his intention to pass the following winter in Malaga, and he is unwilling to remove far from that town, a very agreeable summer residence may be found at Ronda, a distance of eleven leagues.

The journey thither will require two days and is usually made on horseback, although a circuitous and indifferent carriage road, by way of Antequera, does exist. The former mode is far preferable. From its lofty situation in the midst of a mass of mountains, termed the Serrania, Ronda does not become sufficiently warm and settled for the invalid until towards the end of May. It will therefore be better for him to spend the first two or three weeks, after leaving Malaga, at Alhaurin, from which he may afterwards continue his journey to Ronda.

ALHAURIN.

Alhaurin, one of the many old Moorish towns that enliven the valley of the Guadalhorce, is built upon a hill-slope, with an open country before it, and cheerful views over a large expanse of mountain, valley, and village-crowned hills. It abounds in gardens and orchards and villas of the Malaganians, for this is their favourite spring and summer retreat. The salubrity and freshness of its air are proverbial; but before all, in the eyes of the Spaniard, it is a place of many and pure waters, which come down from the hills in several crystal streams. This circumstance, combined with the pleasing situation of the town, induced some hydropathists, with their usual discrimination on such points, to found an establishment there. It met however, in the land of Sangrado, with but little encouragement.

Clean and suitable lodgings are to be had, as well as a bountiful supply of provisions. There is good opportunity for walking exercise, and most visitors will have reason to be satisfied with the civil and honest character of the inhabitants.

On the road to Ronda the famous baths of Caratracca may be passed. The virtues of these warm sulphur springs attract visitors from all parts of Spain. They are highly mineralised, and are applicable to the general purposes of such waters. The establishment, however, is old, and in a very neglected and incommodious state; whilst, at the posadas, the stranger must put up with many dis-

comforts which are tolerable enough to the Spaniard, who expects such things whenever he leaves home.

RONDA.

Ronda lies at the height of more than four thousand feet above the sea. At the same time it enjoys the advantages of an open country, for the mountains, being sufficiently far removed, permit a free circulation of air, and do not reflect that concentration of heat which is often to be met with in elevated situations.

The town is built upon a kind of tongue of table land, divided into two parts by the Tajo, a perpendicular rent in the rock, many hundred feet deep. The houses are perched along the edges of these cliffs, which afterwards diverge and stand above the adjacent country like gigantic terraces. The most graphic pens have failed to do justice to the picturesque beauties of the situation—the mountains, pastoral hills, rocks, cascades, and the river, which, after its broken leap of two or three hundred feet, steals away, meandering through a wooded valley. It is one of those few pleasure haunts that cannot disappoint expectation.

The air, fresh from sandy heaths or plantations of ilex, and free from moist or noxious exhalations, is pure, rare, and bracing. The clear, rosy complexions of the young—all the rarer for happening in Spain—attest its health-giving qualities, whilst the numerous instances of hale longevity have passed into a proverb, commonly known throughout Andalucia.

"En Ronda los hombres de ochenta años son pollones."

"At eighty years old the men in Ronda are still chickens."

On this account it is a favourite place of summer resort for the upper classes, from all the scorched cities for some distance round, and perhaps it would be difficult to find in any part of the country, with the exception of the northern provinces, so agreeable a residence. Those who are curious in such matters may here study in their perfection the pure Andalucian manners. The guitar and the jocund castanets give their peculiar character to the scene, and groups of dancers and singers, the most appropriate accompaniments to the glories of the evening landscape, are thrown about just where the painter would wish to see them.

The newest portion of the town is clean and well built, and contains many good houses, the greater part of which are let out as lodgings. Here the visitor should take up his abode. It possesses, as usual, a shady, rose-planted alameda, running along the edge of the cliff, lifted high above the valley and river, and commanding views of wonderful beauty over the mountains of the Serrania.

Besides the alameda, the country abounds in agreeable walks and rides. A level, breezy heath comes close up to the town, and on all sides are to be found pleasant rambling places among green lanes, or in grassy hollows, unfettered by walls or warnings to trespassers. For the more hilly parts a large stock of sure-footed mules or ponies is kept. The summer bull-fights of Ronda, which are very

celebrated, afford a rare opportunity of observing Spanish life and manners.

Even at Ronda it will be highly imprudent for the invalid to brave the mid-day heat; for the sun, at that time of the day, shines out with such power, that the temperature in the shade, during July and August, will sometimes reach 80°. The advantage, however, which Ronda possesses over most other places in similar latitudes is, the comparative coolness of the mornings and evenings, which enables an imprisonment in the house, during a few of the noontide hours, to be borne without much inconvenience.

In warm climates, generally, a high degree of temporary or intermitting heat is found to act less in-injuriously upon the constitution than another, although considerably lower, which continues for many days together, without material variation during the twenty-four hours. In England, occasional excessive heat is rendered bearable by the speedy intervention of a cloudy day, or a fall of rain, which allows the body to repose and recruit itself before the heat recommences. On many parts of the coast of the south of Europe, the regular recurrence of the sea breezes, more or less charged with moisture, brings about, in a less degree, the same result, and assists in carrying off the excess of electrical fluid, which has been largely developed upon the land.

In Ronda the period of the day during which the heat is great is of short duration, compared with the more temperate portion, and by adopting the habit

universally practised by the natives, of remaining quietly indoors while it lasts, the inconvenience may be altogether avoided. Real Spanish houses, by reason of the whitened exterior, thick walls, paved floors, scanty furniture, and the ample means provided by blinds, shutters and esteras, or mats for excluding the heat, may always be kept comfortably cool during the hottest weather, wherever the night temperature is proportionably lower than that of the day.

Whatever may be said on the score of indolent habits, experience shows that nature has taught the Spaniard the value of the siesta, and during the summer months of his climate, no sleep falls upon him more readily, or proves more refreshing, than that which is taken at mid-day. It comes at a time particularly suited for inaction, and besides restoring the body to freshness and vigour twice, instead of once, in the day, it gives the opportunity for early rising, and allows the sun to perform his meridian journey unperceived. The practice of our own country, in this respect will be no good guide for our practice in Spain, and I strongly recommend visitors to the latter to follow the example of nearly all the English settled there, with whom I have conversed on the subject, by imitating the natives in regard to their siesta.

Provisions, including mountain mutton, beef and game, to which in Spain the whole year is a perpetual first of September, are excellent and abundant. Those who find wine necessary may obtain good Manzanilla or the fragrant Romera, grown in

the Serrania itself: both of which being light, dry, and tonic, are well suited to the climate.

Two miles from Ronda, in a little wooded dell, is a weak sulphur spring. The waters, I was told, are found to be useful as an alterative in threatened consumption and other affections in which the feebly charged springs are beneficial. The baths, at the period of my visit, were in no state to be used unless by the peasants.

The proper time for leaving Ronda will be about the middle of October. Those who prolong their visit beyond this period, will incur the risk of having their journey interfered with by the autumnal rains. Many will find it desirable to pass a few weeks again at Alhaurin, before returning to Malaga.

GRANADA—CORDOVA.

Few visitors to Malaga would be willing to leave that part of the country without some personal acquaintance with Granada and its Alhambra. The best road for invalids, and it is a bad one, is by way of Loja. Although hilly, there is a diligence which stops for the night at a tolerable inn. The mountain road, by way of Velez Malaga and the romantic Alhama, with its Moorish baths, is more picturesque, but must be ridden. It is very exposed and often windblown, and the accommodations at the latter town are almost too comfortless, not to say repulsive, for a delicate person.

The summers of Granada are very hot, and the winters cold; but the spring climate is delicious. Its

groves are then peopled with nightingales, and its gardens filled with flowers, whilst the soft, balmy air, and the clear sky, the glittering snow peaks on one side and on the other, the green fertile valley, or Vega, strewed with mementos of the romantic wars of Isabel the Catholic, help that feeling of enchantment which every recollection of the Alhambra is calculated to awaken.

From Granada a good diligence road leads to the famous city of the Caliphs, patrician Cordova. Here the remainder of the spring may be spent. The climate at that season is most healthy and agreeable ; and the gardens at the foot of the Sierra Morena, as well as the sierra itself, the penance ground of Don Quixote, afford objects for agreeable excursions. Nor will the opportunity be lost of visiting that famous mosque, still almost perfect, although now a Christian cathedral, whose many hundred columns of marble and jasper, attest to this day the magnificence of its founder, the great Abderrhaman.

Both at Granada and Cordova there are good inns. From the latter city the road leads along the valley of the Guadalquivir to Seville and Cadiz, whence the boat starts for England. These journeys, however, should not be undertaken by the invalid unless with medical sanction obtained at Malaga.

CHAPTER XII.

Almeria and Carthagena—Alicante—The dryest tract of land in Europe—Climate—Diseases—A good climate for some chest affections—Palm forest at Elche—Murcia.

THE lines of coasting steamers regularly touch at these two sea ports, which lie between the parallels of Alicante and Malaga. They may therefore be visited by that class of valetudinarian travellers who find it advantageous to their health to remove from place to place.

ALMERIA.

The winters of Almeria are extremely mild and differ but little from the spring and autumn. Frost and snow are never seen; and it is only rarely that the temperature falls below 50°.* This is owing, in great measure, to the protection afforded by the lofty mountains, near the base of which the town lies.

Almeria contains upwards of twenty thousand inhabitants. Its walls are bathed on the south by the Mediterranean; and a portion of the plain in

* Don Mariano J. Gonzalez y Crespo. Memoria sobre las Aguas de Almeria. Madrid, 1842.

which it is situate, being well watered by the river Andaraz and many lesser streams and springs which the neighbouring mountains supply, is highly cultivated and extremely fruitful. The town is clean and tolerably well built; and the accommodation at the hotels will suffice very well for a short residence.

The climate is one of the most healthy in Andalucia. The skies are remarkably clear and brilliant, and are but rarely obscured by clouds. Rain is for the most part of short duration. The air is dry, light, and calm. Endemic diseases are unknown; nor is the town much visited by other forms of disease, with the exception of inflammation of the eyes and affections of the skin, which are of common occurrence and very obstinate. These latter, however, chiefly afflict the poor; and are ascribed to a too exclusive fish diet and to the abuse of spirituous liquors.

CARTHAGENA.

Carthagena, one of the principal mementos of the former naval greatness of Spain, is not to be recommended to invalids as fitted for any other than a passing visit. The town itself it dirty and decaying, the streets narrow, the inns bad. It is surrounded by lofty walls, the gates of which are closed at early evening. Then the climate is much more inconstant, especially during the winter and spring, than at other places on the same coast; and the town is exposed to frequent gusts of wind, a circumstance due, in all probability, to the peculiar

physical arrangement of the ground. To the north of the harbour is the town, built upon the border of an extensive plain; on the south it is open to the sea, whilst some lofty sierras rise abruptly from the extended lateral margins, and, without affording much protection to the town itself, leave it entirely exposed on the north and south, and favour on a large scale, the movements of draughts of air in the direction of the land and sea breezes. Then the walls, for some distance on the landside, are bounded by a tract of low marsh ground * that is never dry, and, after rainy seasons especially, is a source of much unhealthiness to the town. Agues and rheumatisms are very common from this cause, in the side of the town adjacent to the swamp; and in no other part of Spain, judging from what I saw in the great hospital, and from conversations with medical men, did phthisis and dropsy appear to me to prevail so much as here. I may mention that among several cases of sickness, in which I was consulted by native inhabitants, were too well marked instances of Bright's disease. In short, the only inducements to a traveller, bent upon the search for health and distraction, to land at Carthagena are its magnificent but deserted harbour and its dockyard; and here indeed, we cannot fail to admire the grand and imposing scale on which the public works of this great people were once undertaken.

* Livy (Book xxvi.) speaks in the account of the siege of Carthagena by Scipio of a lake which bounded the walls of the town on one side. There is no longer a lake, but the swamp referred to in the text is most probably the bed of the lake.

ALICANTE.

The district of country in which Alicante is situated, extending in the direction of Murcia and Lorca, and along the sea-board towards Carthagena, is, I believe, the driest tract of land in Europe. It at least is certain, that much less rain falls there in the course of the year, than in Provence, which is generally considered to represent the extreme of dryness. In the latter, the soil during the proper seasons is covered with vegetation, and abundant crops of fruits, wine and grain are raised without the aid of artificial irrigation; in the former, although rich in the other elements of fertility, wherever streams or springs are wanting the soil is absolutely barren and herbless. The country immediately around Alicante itself presents indeed, as striking a picture as can well be imagined of the dry and thirsty land where no water is. Hills, rocks, and plain are equally bare, arid and dusty; and the few little spots of green that do appear, in the form of sickly clover crops, or stunted vineyards, where a scanty supply of water has been raised from wells, serve only to render the general absence of verdure more remarkable.

The principal circumstances by which Alicante recommends itself as a place of residence for invalids are; its mild constant, dry climate, warm nights, comparative freedom from high winds, and the general healthiness of its situation; the number of our countrymen who have long been settled there as merchants, and have introduced English wants

and habits; the ready accessibility of the town by means of steamers; and its open unruffled sea.

The information which follows was obtained from personal observation and inquiry during a two weeks' residence in the town, in the month of February, confirmed by the experience of two invalids who had wintered there.

Alicante, in the latitude 38° 20′ N., lies along the shore of an open sunny bay, formed by two long low headlands, which run out into the sea at a distance probably of some fifteen miles asunder. There is a sandy beach, well adapted for sea bathing; and the absence of mud and those other nuisances, the accumulation of which is usually favoured in tidal harbours or in those in which the mouth is very contracted, as often happens in the Mediterranean, is worthy of mention. From the sea there is a very gentle rise towards the walls, by which the town is bounded on the land side; and beyond these, at an average distance of ten or twelve miles, is a semicircular range of lofty mountains, the intervening space being occupied by the plain, interrupted, especially on the west, by secondary rocks and hills, some of which advance near to the town.

The physical character of the ground exerts a very considerable influence upon the climate of Alicante. On the north and north-west sides of the town, an overhanging rock rises up to a height of seven or eight hundred feet; it is of white limestone, and whilst most effectually screening a large portion of the town from the winds proceeding from the above mentioned quarters, it absorbs a vast

amount of heat from the sun, which is all day shining upon it. A very decided effect upon the temperature of the air, by radiation, is thus produced throughout the night, to an extent almost insupportable in summer; the daily range of the thermometer is therefore considerably modified by this rock.

The town contains about 20,000 inhabitants, is well built, and is considered to be very healthy. There are no rice grounds, necessarily from the absence of water; and the littoral region for many miles in both directions is free from swamps or marshy lands. The number of persons attaining to old age is unusual for any town, and many there are whose age far exceeds the average duration of ordinary life. The healthiness of the town is, indeed, only what might be inferred from a consideration of the advantages of situation which it enjoys. Thus the landside is free from malarious or damp exhalations, the rock affords shelter, there is warmth, with more of constancy than is usually to be met with, and the sea breeze daily permeates the streets, acting as an effectual "air sweeper" even among the most closely congregated houses. The air, however, is only dry in a relative sense, for it is tempered with a certain amount of moisture by the east and south breezes which come from the sea.

A series of observations of the meteorology, similar to those which I have employed in the account of some others of the Spanish towns, does not, I believe, exist. Its want is supplied to some extent,

however, by the following table of the in-door temperature, which is condensed from observations made with care and regularity by Mr. Satchell, an English gentleman long resident at Alicante, who kindly placed them at my disposal. The averages are taken from notes made twice a day during three years. The thermometer was suspended in an apartment, always in the shade, and uninfluenced by direct solar reflexion, or by any sources of artificial heat within the house.

AVERAGE MONTHLY TEMPERATURE (IN DOORS) AT ALICANTE, DURING THE YEARS 1845-6-7.

	8 A.M.	2 P.M.	HIGHEST.	LOWEST.
January - -	51·7°	52·7°	60°	47°
February -	51·3	51·9	60	46
March - -	54·2	55·1	64	47
April - -	58·9	60·1	67	54
May - -	64·1	68·2	77	59
June - -	71·5	72·8	82	64
July - -	77·6	79·4	84	72
August - -	76·8	79·6	84	69
September -	72·3	75·3	78	68
October - -	63·9	68·2	77·5	55
November -	58·7	60·5	65	49
December -	52·2	53·3	60	47

These results, although they do not furnish very satisfactory grounds for comparison with the out-of-door temperature as observed at other places, are useful in showing the lowest degree of cold that is ever likely to be experienced within the house at Alicante. The mean annual temperature, ascertained in this way, is 63·7°, which is, in all probability,

below the mean external temperature. The mean temperature of winter is 52·1°. Any one passing a winter here on the score of health would, of course, command an habitual warmth of air considerably superior to this by securing apartments having a full sunny exposure.

The lowest point which the thermometer indicated during the three years was 46°, the highest 84°, the mean annual range being 36·7°. It ought to be mentioned, however, that the observation made at 8, A.M., does not represent the coldest moment of the day, although, for the winter months, it would not be very far wrong. So far as it is allowable to employ for the purpose such data as the table affords, the daily range may be considered as very small.

It very rarely snows in Alicante, nor was there any ice there in the winter of 1848, which was unusually cold along this coast, although as much cannot be said for Valencia, and some other places. Sometimes, however, snow lodges upon the distant sierras, and then the early morning will be rather cold, because the morning air usually sets from the land; but as the day advances and the sun gains strength, the breeze comes from the sea; and so it will generally happen that when the early part of the day may be chilly and unfit for the invalid to venture abroad, the middle and after parts will be mild, calm, and genial. Very few days indeed will be found, on which a walk will be hurtful, even to the most delicate persons.

Although I have made some comparison between the dryness of the country about Alicante and that of the

provinces of Languedoc and Provence, in France, the former is not habitually visited by those impetuous and hurtful winds which constitute the scourge of the latter. These winds, so well known as the mistral, against the penetrating coldness and force of which, during the winter, no amount of clothing can afford sufficient protection, to say nothing of their nerve-deranging properties, are of so drying a nature, that I have known a large wet sponge to be completely dried, within an hour, in a room to which the wind but not the sun had access. It was also stated by sailors, both at Toulon and Marseilles, that boats which remain out of water for three or four hours during the prevalence of these winds, invariably leak. It is to the mistral that the dryness of the air of Provence is in great measure to be ascribed, whereas at Alicante the cause is rather to be sought in the infrequency of rain. So habitually calm indeed is the air at the latter place, that the bay is proverbially known among Mediterranean sailors as a "mar para mujeres,"—"a sea fit for women to navigate." I do not wish to be understood from this that high winds are never to be experienced at Alicante (and when they do exist there are usually clouds of dust); it is of their comparative infrequency I wish to speak.

The quantity of rain that falls at Alicante is so very small, and consists for the most part of such slight fleeting showers, often indeed passing unobserved, that persons of intelligence with whom you converse on the subject use some such expression as the following: "It has rained but twice during the

last six months," or, "It can seldom be said really to rain more than four times a year." The observant gentleman, to whom I have already alluded, Mr. Satchell, noted, with admirable perseverance during five consecutive years, every occasion, by night as well as by day, on which rain fell, not failing to take cognizance even of a few scattered drops. From these observations the average number of days and nights collectively on which rain falls annually is 45 ; but those days on which a single drop only was seen to fall were included in this number. Once only during this lengthened period there was snow, and but twice hail.

From frequent conversations with physicians at Alicante, as well as from opportunities of visiting the sick, it appeared to me that diseases of the nervous system formed the prevailing and most severe class. Apoplexy, the various forms of paralysis, and chronic cerebral diseases, are extremely common ; and among females hysteria, in a more or less aggravated degree, is almost universal and not unfrequently assumes a convulsive character. It will therefore be inferred that Alicante is no safe place of residence for persons in whom there exists a marked predisposition to the above diseases.

Dysentery and diarrhœa occur in certain seasons, but people do not die of them, and they are diseases neither severe nor of frequent occurrence. Chronic rheumatism, as well as catarrh, is apt to occur in the case of persons who are careless of exposure. Intermittent fevers have appeared after winters in which a considerable quantity of rain had fallen ;

but these are so rare that they are hardly to be admitted into the calculation of probabilities. However there was one such in 1842, and it is a saying among the medical men here, that whenever the castle rock looks green it is a sign of a sickly season. On such occasions the agues have fallen on the west side of the town, and not in the neighbourhood of the rock.

Pulmonary consumption is by no means unknown at Alicante. One experienced physician informed me that he considered a fifteenth of all the deaths to arise from this cause. Such a calculation, being founded on no extensive statistical data, must be received for no more than it is worth. Supposing it to be a close approximation to the truth, it would be proper to contrast it with the one-fifth which represents the mortality from this cause in England. The disease is usually marked in the early part of its course by hæmoptysis; and it has been observed that this symptom has, not unfrequently, made its appearance after a hot irritating west wind; the winds from this quarter having, during the summer months, properties similar to those which have been assigned to them when speaking of Valencia. The subsequent progress of the disease is usually slow excepting in the summer months.

The comparatively frequent occurrence of consumption here, as in some other warm situations possessing great advantages on the score of temperature, is to be ascribed in some measure, no doubt, to that want of ordinary precaution in regard to transitions from one degree of warmth to another, into

which an habitually fine climate is apt to betray those who reside in them. Thus it is the usual custom in Spain, after an intensely hot summer's day, during which the skin has been perspiring freely, to go out after night fall lightly clad and sit and stroll, for hours perhaps, on the public walks. Such a practice, especially in some situations, is fraught with danger. At Alicante the favourite place of resort on such occasions is the mole, which runs for some distance into the sea. Here the night air is chilly, compared with that in the town itself, and proves, according to the experience of the medical men before referred to, the most fruitful among the causes of such cases of consumption as are to be met with.

In cases of bronchitis accompanied with copious secretion, especially when there is much torpor of system, the climate of Alicante will prove very beneficial. Atonic dyspepsia and rheumatism are other complaints in which it may be tried. But in all cases it must be borne in mind, that the air is of too exciting a nature to suit the constitution of invalids of nervous temperament.

Taking into account then the leading features of its climate,—mildness and constancy, the absence of natural or artificial sources of unhealthiness, the combination of pure land and sea air, dry as regards the absence of rain, but tempered with a certain amount of moisture by the prevailing breezes which come from the water, together with warm nights and shelter from winds,—Alicante offers advantages, as a place of residence for persons with delicate chests,

far superior to those of many of the places at present resorted to for that purpose. The greater portion of the town is built on level ground, but there is little variety or attraction in the public walks, unless to those who are slow in tiring of sea views. For them there are good and accessible promenades, as well as a sheltered drive, extending under the cliffs towards the east. The calm sea affords excellent opportunity for boating, and this will be an attraction for those who are known to derive benefit from such excursions.

Few would care to explore the naked uninteresting country outside the walls. It is altogether destitute of those charms of vegetation which one is apt to expect on the Spanish Mediterranean coast. An hour's ride, however, leads to the Huerta and to the foot of the mountains. Here there is irrigation and its consequence, an exuberant fruitfulness. Many of the inhabitants possess houses and gardens in this neighbourhood, where the eye, wearied with the glare of the white rock, may repose upon something green. Fruit trees, almonds, oranges, and lemons, abound, as well as those emblems of gladness, cheerfulness, and death, the vine, the olive, and the cypress, seldom failing elements of the landscape in these latitudes.

The situation best adapted for the residence of an invalid is that part of the town which lies under shelter of the castle rock; the rules already pointed out for the selection of a sunny aspect being observed. The principal fonda affords tolerable accommodation, which may very well suffice for those

whose visit extends to a few days only. When I was at Alicante there was no difficulty in obtaining good and inexpensive lodgings.

As at Malaga there is here a considerable colony of English merchants, some of whom, long settled in the country, have become almost naturalized. Their hospitable and well spread tables afforded an agreeable proof that the prandial wants of the traveller may be amply supplied at Alicante. However just the fears that are often entertained on this head may be, when extended to Spain in general, and even then they are greatly exaggerated, they do not apply to the places of which a description is given in the present volume.

There is a club, supported by the English residents, at which the London papers may be seen; and the natives have their Liceo, an institution which, in addition to a reading-room, offers the attractions of society which is cheerful and agreeable, occasional balls, amateur theatrical performances, &c. For the rest there is a good deal that is truly Spanish to be seen in the customs of the people.

Alicante may be readily reached by the steamers which run, every two or three days, between Marseilles and Cadiz, and regularly call here. There are also diligences to Madrid and Valencia.

A lengthened residence at Alicante might be varied by a visit to Murcia, which would afford an opportunity of seeing something of the interior of the country, without surrendering the advantages of a mild climate, supposing a favourable occasion to

be chosen for the excursion. The journey of thirteen leagues might be made on horseback or in a tartana, a sort of rather primitive covered cart which travels usually at a foot's pace ; and the first night might be spent at Orihuela, a large town with a tolerable posada. The road lies through a forest, several miles deep of palm trees, in the midst of which is the oriental looking town of Elche, a sight which every European may well make some exertion to behold. Further on commences the famous garden of Murcia, watered by the Segura, a marvellous display of varied fruitfulness, uniting in its vegetation the types of many climes, and only less celebrated in Spain than the plain of Valencia.

Murcia is a large and thoroughly Spanish city, and during the winter its climate is considered to be healthy. There are many well built houses and streets and some good public walks ; but the inns and lodging houses are not of a very inviting description.

CHAPTER XIII.

VALENCIA.

The Cardinal de Retz' impressions of—Surpassing attractions—Irrigation—Climate—Fruitfulness of the soil—Healthiness—Rice cultivation—Diseases—Spanish physicians on the treatment of consumption—Provisions, &c.—Invalids who may go to Valencia—Alcira and Carcajente—Orange plantations—Analysis of the soil—Jativa.

THE Cardinal de Retz, travelling through the great plain of Valencia, two hundred years ago, records his impressions of that beautiful country in the following terms: "J'entrai de l'Aragon dans le Royaume de Valence, qui se peut dire non pas seulement le pays le plus sain, mais encore le plus beau jardin du monde. Les grenadiers, les orangers, les limoniers y font les palissades des grands chemins. Les plus belles et les plus claires eaux du monde leur servent de canaux. Toute la campagne, qui est émaillée d'un million de différentes fleurs qui flattent la vue, y exhale un million d'odeurs différentes qui charment l'odorat."*

The above description, as must be the case also with any other, conveys a very inadequate idea of

* Memoires du Cardinal de Retz, vol. 2, p. 299. Paris, 1842.

the surpassing attractions of the country to which it refers. The traveller, indeed, can hardly hope to find a more glorious prospect of cheerful fruitfulness than that which is presented at various points of this great plain or garden. It is the boast of every Valencian, and he probably has reason on his side, when he challenges the world to produce a parallel. The nature of the surface, alternately level and undulating, adapts the soil for a great variety of productions. The olive, the dressy algarroba or locust tree, the palm and the cypress, never wearing the autumnal tint, but always green, are spread at intervals over the whole district, and help to shroud, although but partially, the fifty villages and village-spires which the natives proudly point out to the visitor. On the level grounds, where irrigation is employed, the fertile earth, wrought by the patient and laborious peasant with all the neatness of a garden, never tiring, produces, winter and summer, a succession of crops, ripening one only to bear another. The only boundary to this prospect is a grand array of purple mountains, which, running along the northern side of the plain, sweep down at either end to the sea, and enclose a tract of level country some thirty or forty miles in length and twenty in breadth.

The pleasing sensations which every thing else in external nature is here calculated to excite, are further heightened by the brilliant skies, proverbial even among Spaniards, and by the glowing light that brightens up the whole. The effect of these influences upon the character of the people is very

striking. Of a lively and buoyant disposition, and happy in the midst of poverty, even the poorest are ever ready for active amusement after a day of hard toil. The merriness of their dancing and the determined pleasure-seeking of the holiday groups, with their bright coloured dresses and stirring music, can scarcely fail, along with the climate, to impart a sympathetic animation and light-heartedness to the beholders, even if depressed by dyspepsia and hypochondriasis. Valencia, indeed, was termed by the Arabs the city of mirth; nor has it to this day renounced its claims to the title.

The city itself, with its many gay coloured Moorish domes and stately palms and cypresses, is built upon the level part of the plain scarcely three miles from the sea. The broad and pebbly bed of the Turia, crossed by five handsome bridges, each of many arches, separates it on one side from some of its suburbs, the waters of the river being well nigh exhausted, before they reach the town, by the gigantic system of irrigation.

The streets, with few exceptions, are narrow, crooked, and intricate as a labyrinth; the houses, often lofty, but without architectural pretension. There are three or four irregular squares or plazas and a large number of smaller spaces which hardly merit the name.

The ancient Moorish wall still encircles the town and separates it from the suburbs; the population of the former being 80,000, of the latter 50,000, inhabitants.

So far as internal cleanliness is concerned Valen-

cia is, in some respects, quite a model city. Troops of mules enter it at day break and bear away every atom of rubbish, which is carefully treasured as manure for the Huerta or garden. Its sanitary condition however is influenced in other ways.

The normal condition of the climate is one of unusual dryness; but this is so much modified by the vast surface of evaporating water that it becomes during the warm season, when along with more active evaporation there is more frequent irrigation, decidedly humid. The increase of the rice grounds too, although they are still some distance from the town, is doubtless contributing more and more, from the liberal supply they receive of water, to the impregnation of the air with moisture. Even during the winter, irrigation being still carried on although at longer intervals, such as once in every four or five days, there is a degree, although a much less one, of the same adventitious condition of the air, unless when the land winds are strong, or there is an unusual degree of cold. Irrigation takes place on all sides of the town, and even through the latter itself run many little streams which supply gardens within the walls, or lead to fields immediately beyond them. Hence it may be seen, in several situations which are not freely exposed to the sun or to currents of air, that the ground is damp and becomes green from the growth of lichens. But this occurs to a far less extent than in the courtyards and shaded balconies at Rome.

However, the traveller who has seen the process of irrigation, as practised in the great plain of Lom-

bardy, where, in most cases, a sheet of water incessantly trickles over the ground, the surface being inclined for the purpose, must not expect to find a similar system pursued in Valencia. Here, the land being almost wholly arable, a single overflow of water suffices until its evaporation requires the process to be repeated. Nor is the transparent atmosphere of Valencia affected by cold fogs, such as so commonly hover over the Lombard fields throughout the winter.

The prevailing winds furnish another means of counteracting, in some measure, the dry atmosphere which would otherwise result from the infrequency of rain. These come from the east, and having swept over a long extent of sea, are always more or less charged with moisture. In winter they are soft and mild,—for the waters of the Mediterranean have been found to be three or four degrees warmer than those of the Atlantic in the same latitude,—in summer cool and refreshing. I have before remarked that the east winds of the Spanish and Barbary coasts of the Mediterranean possess a directly opposite character to those of Provence, Nice, and its more northern shores generally. The former are as essentially moist and, excepting at the western extremity of the coast, as soothing, as the latter are dry and irritating. At Gibraltar and Tangiers the moist character of the east wind is so pronounced, that during its prevalence articles of iron become speedily covered with rust, even when kept in-doors.

The south winds, which are infrequent at Valencia, are also moist; whilst the north, which must be

expected from time to time in the winter, and the west wind in summer, are invariably dry, being in fact the land winds of the district.

Rain, in the five years from which I have computed, fell on no more than 38 days in the year. This is exclusive of that which may have fallen by night. Dr. Batllés informed me that he had estimated the average so low even as 35. Of these autumn and spring have the larger share, and sometimes it may rain on two or four consecutive days. No month is exempt from passing showers, but July is more so than any other. In August and September thunderstorms not unfrequently accompany the rain. It may be added, that it rarely rains unless with an east wind.

Temperature. Being in the latitude 39·28° N., Valencia is considerably to the south of the ordinary wintering places of invalids. The mean annual temperature is 63·5°; that of winter 49·7°; of spring 60·7°; of summer 78·8°; of autumn 65·7°. These numbers may be advantageously compared with those of many other places of winter resort. At the same time they do not give evidence of a heat corresponding with the latitude. The mean annual range is 63·8°; the mean extremes being 28·9° and 92·7°. The daily range is small, extending to an average of 8·7° only.

Of the months, January is somewhat the coldest; and it is curious to observe that the temperatures of December and January, of March and November, of May and October, of June and September, and of July and August are, respectively, all but identical.

Some winters pass away in which the thermometer never falls to the freezing point; but, on an average, frost occurs on about four days in the year. The scanty ice however soon disappears as the sun gets up; but at these times although the wind may not be high, the cold is often very sensible, especially at early morning, after sunset, or in the shade. I have known persons to suffer from chilblains at Valencia who had never had them whilst residing in England. It is only fair to add that during the winter in which I was at Valencia, an unusually cold one (1848), there were several days of slight frost, and of dry penetrating north winds, which in some situations, blew up clouds of dust. Chest affections of an inflammatory kind, became common, and numbers of infants and young children, chiefly, it is true, among the poorer classes, who are sadly destitute of comforts for these rare occasions, were perishing. Fires were quite as necessary as in England. In ordinary years all that can be called winter occurs between the middle of December and the beginning of February. On the 7th of the latter month, a thermometer which I exposed to the sun at mid-day, indicated a temperature of 79°.

Snow, I was informed by Dr. Batllés, fell, to his certain knowledge, on three occasions only during fourteen years. The heaviest of these falls I witnessed; it slightly covered the ground, and was melted in a few hours. In the mountains, a few leagues off, snows are more frequent and more persistent.

The springs are delicious; the burst of vegetation, the profusion of flowers, and the soft balmy air, both

astonish and delight. Such winter as there may have been is suddenly arrested, and in March vegetation is far advanced; silk-worms are born and begin to eat the mulberry leaves, an event which does not occur in Provence until May. Still, the invalid will have to be on his guard against high winds, which in some seasons, occur during this month.

The summer heats, by means of the sea-breezes, which set in from the east about nine o'clock in the morning, and continue until sunset, are kept down to an average of from 78° to 80°; but once or twice in the summer the thermometer will, perhaps, reach 100°, or even higher. This is always with a west wind, which having traversed many hundred miles of heated land, from Lisbon and Badajoz, has acquired those dry, hot, irritating properties which we have seen to characterize the east wind at Seville, the south at Madrid, &c. On these occasions, all who are able to do so, remain in-doors; every window, and even the shutters, are closed, for people prefer to remain in half-darkness rather than encounter the sultry, stifling, nerve-deranging air.

In favoured years, however, the seasons know scarcely any limits, save such as are arbitrary. The same land often produces four distinct crops in the year; such as wheat, hemp, Indian corn, and beans; and it is not unusual to gather, during the same period, three new crops of oranges. I may mention, too, that both here and at Alcira, from fourteen to sixteen good crops of alfalfa or lucerne, are cut in

the course of the year. On the 14th of January, in a winter colder than ordinary, sun-flowers, smelling roses, and many other flowers, were in full blossom in the garden of the Glorieta, whilst the ash, beech, and poplar trees on the Alameda, were still half-covered with green leaves. The fruit of the palm-tree at Valencia ripens, and is edible; and although the dates are far inferior in size and flavour to those of Africa, they form an article of commerce.

Among the productions of warm climates, cochineal is largely raised in Valencia, as indeed it is, to a less extent, at Malaga. There are many plantations of the branching cactus (*opuntia cochinillifera*), upon which the insect forms. The flattened phyllus of the plant is often thickly covered by them; in size they are half as large again as a lady bird, of a dull purplish black colour, soft and spongy to the feel, but evincing no movement when touched. They adhere firmly by the whole ventral surface to the plant, and, when plucked off, a bright red juice exudes from their bodies.

In a sanitary point of view Valencia may, on the whole, claim to be considered a healthy town, if we make allowance for the extreme poverty of the poor in and around it. Nowhere in Spain is the land so overflowing with produce; nowhere does the peasant labour harder or gain less. He lives upon a diet which would be scorned in Andalucia, consisting almost wholly of rice, green vegetables, and oil, with a scanty supply of bread. Instances of great longevity are not uncommon among those who are better fed and better lodged. In regard to potable

water, when I was at Valencia works were in progress for furnishing the town with a supply of an excellent quality; these, I understand, are now completed.

The cultivation of rice in any locality renders some precaution necessary as to the period when it may be safely visited. Stretching away for many miles about the sea-coast and the Albufera lake, on the south and south-west of Valencia, are tracts of rice grounds, in the direction from which, as we have seen, the winds rarely blow. Until recently these plantations were confined to this side of the town, and then they existed without prejudice to the health of the inhabitants. But the cultivation has now been extended, rather rapidly, to the littoral strips on the opposite shore, from Murviedro (Saguntum), down to the Grao. The emanations from these grounds are at the mercy of the prevailing winds; and it is now found that agues and remittent fevers have become common in Valencia, although not at that period of the year in which invalids are likely to visit the town.

The rice is sown in April and transplanted in May, and then the stream of water is let in upon it and continues to flow, more or less slowly, in proportion to the evaporation, until the reaping time, in September. The ground is perfectly level, and formed into little enclosures, which are surrounded by low banks. In one corner of the latter a shallow notch is cut to allow the overflow of water to pass into neighbouring enclosures. No noxious exhalations arise, therefore, until the ground ceases to be

covered with water at the harvest time, when the flow is arrested, and the air, along with heat and moisture, the three conditions necessary for the generation of ague malaria, are, for the first time, brought to act together upon the exposed and decaying vegetable matters. And now the wretched harvesters, up to their knees in mud and water, and steeped in the pestilential miasmata, reap the crop, beneath a burning sun and amid swarms of musquitoes. By the middle of November, and even before that time, the sun has generally completely dried the surface of the soil, and the risk of malaria has passed away. It is therefore between this period and the end of September that Valencia is not a suitable place for invalids, nor indeed for the healthy, who will incur more or less danger in remaining there.

The diseases that prevail at Valencia, are of a kind and type such as might be anticipated from the somewhat humid state of the atmosphere. The relaxed state of the skin, which is apt to occur during a large portion of the year, favours the occurrence of catarrhs, which are common in the summer, and frequently terminate, when neglected, in consumption. This latter affection, however, prevails for the most part among the poor; and when we take into consideration the habits of the Valencians, who, after the skin has been perspiring freely throughout the day, sit out at night in their balconies, or upon the stone benches of the public walks, whilst the air is cooled by the descending moisture, we are fairly led to remark upon its comparative infre-

quency. In support of this view Dr. Batllés assured me that a perceptible increase in the number of cases of phthisis had taken place since the formation of the fashionable garden, the Glorieta, which is much resorted to on summer nights. I was myself consulted in two well-marked cases of phthisis, and saw several others in the great hospital. The character of the disease seemed to differ little from what is observed in our own country. The mortality to which it gives rise has been calculated, whether from trustworthy sources or not I am not aware, at three hundred annually.

It is well worth some reflection that this fatal disease is considered by the physicians, not only of Valencia, but of Spain in general, to be very much under the influence of medical treatment when applied at an early period. They view it in that stage as a state of cachexy, in which relaxation forms a prominent feature, and believe the first hœmoptysis to be generally of a passive nature. At once, therefore, on the manifestation of these symptoms, they prescribe a removal of the invalid towards the mountains, where the air is more bracing, drier, and aromatised with wild herbs; where the waters are thought to be purer and more highly charged with gas, and therefore more stimulating, and the articles of food of a less watery and more nutritive kind than they conceive to be the case in the low country. The degree of approach to the mountains is made to depend on the season. In the summer they advance boldly among them; in colder seasons favourable situations near their bases are selected.

I have heard so many medical men, in different parts of the Peninsula, detail the particulars of cases of incipient phthisis that have been cured in this way, and have read of so many others in various of their publications, that I cannot doubt such fortunate results have been obtained, and that the affections they have referred to were, in many instances at least, really consumption. Indeed, when intelligent men mention such symptoms as cachexy, with cough, loss of flesh and hœmoptysis, occurring in the earlier years of manhood, it is difficult to come to any other conclusion, even although auscultation may not have been practised.* Very often these cases have been assisted by the use of mineral waters, and sometimes by a course of the whey of goat's milk; or in the autumn the patient has been allowed to eat as many grapes and as often during the day as the stomach would bear. In England there is little opportunity of testing the value of these remedies, but I entertain no doubt myself of their merits in some valetudinary states.

In the spring, cases of rheumatism are apt to occur; but not at this season alone. In fact, this disease is by no means unfrequent here, and is often of an acute kind, when it is treated by full bleedings. Becoming chronic, it generally disappears with warm weather, or yields to sea bathing, or to the use of some hot mineral waters beyond Saguntum. Erysipelas often prevails, the climate being a

* For cases in point *vide* "Memoria acerca de las aguas y baños minerales de Panticosa," por Don José Herrera y Ruiz. Madrid, 1845. P. 52, &c.

predisposing cause. It may be traced to excessive wine drinking, or to the effect of the sun's rays upon the uncovered head. It is commonly fatal when the head is attacked, and is treated by repeated abstractions of blood; a practice which, judging from cases which I had the opportunity of witnessing, seems to be as prejudicial here as it has proved to be in England.

Among the poor, especially those who labour in the fields, ulcers of the leg are very common, and are often caused by damp and poor diet. They are difficult of cure in the town itself; but no treatment proves so serviceable in the hospital as that by the English plan of strapping and bandaging. The injurious effect of damp upon the healing of wounds is fully recognised here.

Nervous diseases prevail during the hot weather, and in the spring; and hysteria often assumes the convulsive form. Amenorrhœa is very common; menorrhagia less so. Severe affections of the abdomen, unless where the organs have been damaged by malaria, do not form a numerous class. Cholera however, was extremely fatal and wide-spread, so that many houses were quite depopulated. During the summer and autumn fevers are among the most frequent causes of death.

Calculous affections are rarely met with, and the same thing happens, I was informed, in regard to Bright's disease. I examined the renal secretion of many persons, indiscriminately, in the hospital without detecting the presence of albumen; nor during repeated visits, did I observe among the numerous

patients, an instance of the peculiar physiognomy so characteristic of the disease in question. A similar result would certainly not happen in the case of our large hospitals in England.

Few towns are better supplied with provisions than Valencia. Fruits and vegetables are abundant at all seasons; although from their rapid growth and the employment of irrigation, they do not always possess the usual amount of flavour. A dish to be had constantly is the "pollo con arroz"—chicken and rice; it is light and nutritious. Mutton and beef are good; and fish, of which there are many wholesome kinds, as well as game, including partridges, woodcocks and snipes, are very plentiful. The latter, together with hosts of aquatic birds, ducks, teal, widgeons, plovers, &c., are supplied by the great lake, Albufera, and its swampy margins. The milk, both of cows and goats, is to be had. The latter, so good for weak stomachs, is more commonly used, being indeed throughout Spain a never-failing resource. The best is that which is obtained from animals that feed on waste lands, the milk often possessing the aroma of rosemary, or other sweet-smelling herbs. The wine of Valencia must be used very cautiously, for the greater part is strong and spirituous. A good deal of it comes from Benicarló; a dark strong wine, known in England by the name "black strap."

There are several hotels in Valencia, but strangers are not likely to be so well lodged as in Seville, Cadiz, Malaga, or Barcelona. The "Fonda del Cid," the best of them, is clean and comfortable, and some

of the rooms have fire-places, but the accommodation is limited. A family intending to pass the winter here, might find it better to secure, betimes, a suite of rooms in a private house, and have them fitted up according to English ideas of comfort. There might, perhaps, be the opportunity of doing this through the agency of some resident. The floors, which, as well often as the walls, are paved with the gaily-painted tiles termed "azulejos," an admirable protection against creeping insects, should be covered with the thick mats or esteras of the country. Sandbags and list are an easily obtained defence against excessive ventilation, and it will be worth while for a winter's residence, to procure a stove or fire-place, where they do not exist. It will be inferred from what has been said that the character and extent of house accommodation are not so satifactory as in places that have been more frequently visited by strangers.

It is very desirable on coming to Valencia to have a knowledge of the Spanish, or at least an intention to study that magnificent language. There are very few English residents, and without an acquaintance with the national idiom, a stranger would be almost excluded from the society of the place, which is polished, cheerful, and often intellectual.

The whole town is level, and so far, is favourable to walking exercise; but the garden of the Glorieta is the only public promenade that can be recommended within the walls. This is sunny, cheerful, generally sheltered, and besides being a very pretty

place in itself, is enlivened on feast days by a military band and by a grand display of the gaily dressed beauties of Valencia, who are pronounced by the learned in such matters, to bear the palm of beauty, although not of grace and presence, among the fair ones of Spain. Immediately outside the walls are the alameda and the gardens on either side the gate of Serranos, as well as the river bed, a good place for equestrians. A raised walk, extending from the Cruz de Mislata along the waterless river side, is a favourite place of the natives for taking the sun during the winter time. All these places of resort command pleasing views terminating in mountains, and are provided with stone benches, which, by means of a portable cushion, may always be rendered safe resting places, whenever it is proper to sit at all. The tree-bordered road of the Grao, leading to the sea, offers pleasant excursion ground to riders and drivers.

There is a circumstance in connexion with Valencia, that ought to be mentioned by way of caution to persons of delicate or susceptible lungs. Many of the houses are very lofty and the streets so narrow, that, whilst the sun never penetrates them, they form a sort of tube along which currents of chilly air are passing. On the other hand, the open places, large and small, receive the full play of the sun. In most towns in these latitudes, the squares may be said to represent so many furnaces, whilst the narrow shaded streets leading into them are so many feeders or blast tubes. I notice the subject in speaking of Valencia, because it is not easy to

walk much in the town, without exposure alternately to the heated and cold parts; although the contrast between them is usually much greater in places that are situated at greater altitudes above the sea.

In reviewing the preceding account of Valencia it will be seen, that much stress has been laid upon what may be termed the drawbacks; both those which belong to the climate and those that are of a domestic nature. The former, it must be remembered, are relative merely, and to be fairly judged, must be compared with corresponding features in other places that are thought to possess rival claims. Even supposing them not to have been too prominently stated in the case of Valencia, few persons with personal knowledge of both countries, would be found to dispute the truth of the following passage from that highly gifted and keen observer, Mr. Ford: "To invalids and consumptive patients the climate of Valencia is far superior to that of Italy; there is a most delicate softness in the air, which is so dry withal that salt undergoes no change." * This dryness, it may be repeated, is the natural condition of the air, found wherever the influence of irrigation is not felt.

The charms of this climate, in their greatest degree, do not, however, belong so much to the irrigated district in which Valencia stands, as to the immediate neighbourhood; and fortunately, it is very easy to reach the latter and breathe the atmosphere in its state of natural dryness. Scarcely two

* Handbook for Spain. Second Edition, p. 185.

miles off, on the north and north-west sides, the ground begins to rise and continues to do so, gently, until the mountains are reached. The soil in many parts is chalky and gravelly, and water being wanting, vineyards and plantations of algarrobas and olives, for miles, take the place of the green crops. The greater part of this large tract passes under the name of the plains of Quarte. It is gently diversified with undulations, the air is pure, dry, and aromatic, and being exposed to the full influence of the sun, is often felt to be warm and genial when it is chilly in the town. To the right and left of the great road which passes through its centre, are villages and detached farm-houses and villas, in some of which accommodation may be had. Bujasot is the nearest and most convenient of these places, being scarcely two miles from Valencia. It lies upon a slope of gravel and chalk, there are many gardens about it, and the air is considered to be bracing and peculiarly pure. On the 29th of January the sun was shining there as if it had been our month of June, flies were sporting about, and the air was remarkably exhilarating and balmy. The dryness of the situation is attested by the Moorish subterranean corn-granaries or mazmorras that still exist there. Dyspeptics and those who are able to bear a still more bracing air may advance nearer to the mountains.

From various points in these plains of Quarte, the brilliant skies of Valencia, the soft balmy air, the noble sierras which bound more than half the horizon, replete with bold and varied outline, and

exhibiting in perfection, from the scars and ravines upon their surface, the play of light and shade, the prospect over the wooded undulating country, and the many spires and domes of the city of the Cid, all terminated by the deep blue of the Mediterranean, combine to cheer the spirits and engage the fancy.

Lodgings, in these suburban parts, will be found, as may be expected, more destitute of comforts than in the town itself; whilst the provision supplies will have to come in great measure from Valencia. The former may be created, very often, by a few contrivances and adaptations such as I have already referred to, out of very unpromising materials, provided a sunny and sheltered abode is chosen; and a tartana, which is the common carriage of the country, will provide for the latter. None, however, but those who have the faculty of easily making themselves at home, should venture upon these quarters. Spanish invalids who visit them are content with a bed, a few chairs, and tables, &c., prepared to submit to discomfort even for the sake of a climate and country so delicious, and the hopes they almost always encourage of returning health.

It remains to point out those forms of ill health that are likely to be benefited by a residence at Valencia, although the preceding pages have anticipated much of what can be said on the subject. Like Seville, Valencia will prove a charming abode for those who, with impaired general health, require during the winter months some remedy for the wear and tear of mind. More of novelty and of orientalism may be seen here, and in the neighbourhood,

than in any other part of the Peninsula ; and this—in six or seven days only from England by way of Marseilles. The daily exercise of such persons in the open air will scarcely be interrupted for a single day. The large class of valetudinarian travellers who derive more benefit by moving from place to place than in a fixed residence should not fail to come here. Every few days there are steamers to Barcelona and Alicante, or the journey may be made in diligence by land. In those kinds of chest complaints that require great care, such as phthisis, Malaga, possessing a milder and steadier climate, is to be preferred. Chronic bronchitis in the majority of instances will be benefited by Valencia, the distinction already pointed out between the character of the air in the town and neighbourhood being borne in mind. In all such cases the night and early morning air must be carefully avoided whenever the wind is in the north. Gout and calculous diseases are so infrequent among the natives, that to persons so afflicted a trial of the air may with great confidence be suggested. The climate is also good for atonic dyspepsia, particularly if residence is taken up on non-irrigated ground. It must be remembered that the most relaxing condition of the air is to be found during the summer.

Invalids proposing to settle for a time in Valencia might put themselves into communication with Dr. Batllés, the professor of clinical medicine in the University, who both studied and graduated in our own country, and speaks its language. To him and to facilities which he was able to afford me, I am

indebted for much information, and for opportunities of extending my acquaintance with the sanitary condition of Valencia.

It may not be out of place to refer here to the course of treatment by change of climate, which the physicians of Valencia are in the habit of prescribing. During the winter, the town itself or its neighbourhood is preferred as a residence. In spring, they consider it good to change from place to place, seldom remaining for more than two or three weeks at a time in any one of the country towns or villages of the plain, and then passing on to another. The summer, after some sea baths at the Grao and perhaps a few boating excursions, is spent in the cool and verdant retreats of the mountains, at from four to eight or ten leagues from the town. In the autumn they again descend into the plains of Quarte, to survey the vintage and eat as many ripe grapes as the stomach will bear. This system is pursued, not only by valetudinarians, but also, to a greater or less extent, by all other persons who have the means to do so and wish to preserve their health.

In taking leave of Valencia,—a subject on which I have perhaps dwelt rather longer than the reader may find agreeable—I will express the hope, that every invalid who may be induced to make trial of its winter climate, may with renewed health be able to bear some testimony to the truth of what a Spanish writer says in its favour. "En ella cada templo es un museo, cada estacion una nueva primavera, cada campo un ameno jardin; y que el conjunto de todas estas circunstancias nos representa una de aquellas

felices moradas del delicioso valle del Tempé."* Here each church is a museum, each season another spring, each field a beautiful garden; whilst the united attractions suggest to us some happy spot in the lovely vale of Tempe.

ALCIRA, CARCAJENTE, AND JATIVA.

The above three towns, within easy reach of Valencia, possess like it great advantages of climate and a certain charm of scenery, and are more decidedly in the country than a large city well can be. A short occasional sojourn in either of them would relieve the monotony of a whole winter at Valencia, as well as be attended with benefit to the health.

Alcira is reached in from three to four hours by diligence, the road, the whole way, passing through one vast garden, in which the trees become larger and larger as we recede from Valencia. It is an old Moorish town, completely covering a small island in the midst of the river Jucar, which is so deep and rapid that it can never be forded. The climate, during the winter, is soft and temperate as that of Valencia, and is considered to be very healthy, excepting about the period of rice harvest, when fevers and agues are very rife. The country immediately outside the town abounds in pleasant walks among gardens or over rising grounds which command striking mountain views.

The orange plantations, which form the marvel of a large district, commence here; and Carcajente,

* Guia del viagero en España, par D. Francisco de P. Mellado.

distant but a short hour's walk, lies in the midst of them. These orange plantations are not to be matched probably in Europe for extent, luxuriance, and beauty. They spread for many miles over the country, losing themselves in the distance where the sierras begin to rise. The size of the trees is often prodigious ; and whilst, in regarding the landscape, uniformity of surface is broken by the gently undulating ground, the almost dazzling richness of such a wide display of green and gold is relieved by picturesque groups of palms and sombre cypresses, which rise up at intervals over the whole Vega, and by the purple back ground of the distant mountains. In these modern gardens of the Hesperides, where the fragrant flowers and golden fruit are companions upon the same trees throughout the winter, you may ramble about without let or hindrance. The only guardian dragons to be propitiated are some very civil labourers, who generally have a cottage on the estate and may be made happy with a peseta. It will however be desirable, on several accounts, to obtain a letter to some resident in the neighbourhood. It must be admitted that the accommodation at neither of the towns does justice to the fair promise of the country. However, there are posadas at both places : and those who have travelled much on the continent have probably been worse lodged in little visited districts both of France and Italy. The soil of the whole of this portion of the plain is sandy. Carcajente is somewhat drier than Alcira, but the best inn used to be in the latter place.

The smiling lands just spoken of were but a few

years ago a sandy waste. Their present fertility, assisted by irrigation, is extraordinary. I have thought it might be interesting to subjoin an analysis of the soil. A portion was examined by myself and another was sent to Mr. R. Phillips. I give the analysis of the latter gentleman :—

Silica - - -	80·18
Alumina - -	10·42
Carbonate of Lime - -	4·66
„ Magnesia -	0·54
Oxide of Iron - -	1·70
Organic Matter - -	0·70
Moisture and loss - -	1·80
	100·

The oranges seldom find their way to England, but large quantities are sent into the interior of Spain as well as to France. They are very juicy and of good flavour, and contrary to the rule with us the best fruit often has a rind a quarter of an inch thick. A delicate and delicious liqueur, the licor de azahar, is made from the flowers. It is rarely to be met with excepting on the spot, and is highly valued.

Xativa or San Felipe lies a three hours' ride beyond the last mentioned places, and possessing a dry and bracing air, will be useful to persons with whom that kind of climate is known to agree, or who may require some such change for temporary reasons.

The winter temperature is about three degrees colder than that of Valencia, the air being also more stimulating and more invigorating. Still the winter is mild, and, as I was informed, pretty free from

sudden and considerable changes. Snow and frost are rarely seen, and oranges and palms flourish here, whilst the fruit of the pomegranate is considered to be the finest grown in Spain.

Don José Mascarell, a physician practising at Jativa, assured me that cases of phthisis were rarely met with, much more rarely than at Alcira or Valencia, a circumstance which he attributed to the more tonic and drier atmosphere of the former place. During the winter indeed, according to the same gentleman, the town is remarkably healthy, so that but few diseases of any kind occur. The summer is a less healthy season, and in the autumn the rice grounds, which abound in the low tract of country beneath the town, give rise to marsh fevers.

Jativa is a rather handsome town of 15,000 inhabitants and has a very tolerable hotel, the Fonda de las Diligencias. It is built upon a slope overlooking an extensive cultivated plain at the base of a rugged limestone rock, which rises perpendicularly, immediately behind the town, to a height of several hundred feet. This rock extends from east to west, and lying on the south side of the town, deprives the latter of the full influence of the sun during the winter months. And this would be, on some accounts, a disadvantage to delicate persons. Still, the uniformity of temperature which prevails in a place so circumstanced is not without its advantage. Moreover, by proceeding a few steps, either into the plain or in the direction of the mountains, the sunshine may be soon reached. Although the aspect of

the town is to the north the winds but rarely proceed from that quarter, those from the west being by far the most frequent.

The town can boast of many attractive walks, and the grey richly tinted rocks, close at hand, crested with Moorish walls and ruins, which harmonize admirably with the picturesque disorder of the ground upon which they stand, are very accessible and offer abundant scope for sketching. A short walk, by an easy ascent above the town, leads near the hermitage of San José to a shallow basin of green sward, dotted with algarroba trees. This was the site of the town—now obliterated—in the time of the Moors. Here the sun, during the winter, plays with all his power; and whilst the air is warm, and fragrant from the aromatic herbs that cling about the rocks, you may sit upon the dry turf and alternately read and enjoy the pleasing mountain views. A public promenade and Glorieta afford agreeable walking ground in the town itself. There will be no difficulty, in Jativa, in regard to provisions, especially if the wants for the day are early made known to the people of the house. The water too is excellent and abundant.*

* I have more than once referred to the Spaniard's passion for good water, and to the various properties with which he conceives this, his favourite beverage, to be endowed in different localities. It is of the water that he first inquires on changing his residence, and "las aguas son muy buenas y ricas," expresses, in his idea, when speaking of any place, that wholesomeness of situation which we are in the habit of associating with the qualities of the air.

The physician above mentioned told me that a little way off from Jativa is a village with two brooks. The waters of both are good to the

CHAPTER XIV.

TARRAGONA AND BARCELONA.

Tarragona—Barcelona—Topography—Climate—Salubrity—Affections in which it may be recommended—Public walks—Suburb of Gracia.

TARRAGONA.

STEAMERS from Barcelona, going westward, sometimes touch at Tarragona, and will thus give the opportunity to invalids of the migratory class to spend a few days in that once famous city. There is also a tolerable road; but, although enjoying a mild climate at the two extremities, the intermediate portion leads among the mountains where it is often exposed and wind-blown, besides being subject to frost and snow. If the land journey is made, it should be before the winter sets in, night or early morning travelling being avoided.

Tarragona is nobly situate upon a steep limestone rock overhanging the Mediterranean. Far away, in

taste but have the reputation of possessing different properties. The one is remarkable for increasing largely the appetite, the other is free from this sometimes questionable advantage. The inhabitants, too poor to indulge in the former, are careful to confine their potations to the latter.

the back ground, a semi-circular range of mountains shuts it out from the north, and sweeps round the undulating plain, which is studded with olives and algarrobas. There are few finer sights than this noble plain, once peopled, it is said, with more than a million inhabitants, and the mountain wall by which it is begirt.

The town is remarkably healthy ; the air mild as to temperature, but, from its great dryness, bracing and rather keen. When the lungs are delicate it will be safer, therefore, to leave before January. There are no standing waters, nor is irrigation employed. The walks are excellent ; the long terrace to the south looks down upon the sea and the well broken shore ; and in various directions on the land side are scattered pine woods, heaths and aromatic wastes, where the wild lavender and many other sweet smelling herbs perfume the air even in mid-winter.

The attractions to the antiquary are very numerous, more Roman remains existing in this neighbourhood in good preservation than in any other spot in the Peninsula. The accommodations at the posada are pretty good for a Spanish inn, and, although offering little temptation for a winter's residence, may very well suffice for a few days.

BARCELONA.

There are some circumstances in the situation of this, the chief city of Catalonia and the second of Spain, which may render an account of its climate desir-

able. Such are its accessibility, and its proximity to France, and to those many summer watering-places in the Pyrenees, especially the eastern half of the chain, which are becoming so increasingly visited. The natural attractions of its situation, the extent to which it is supplied with many comforts and necessaries, and the bustle and amusements of a great city will afford, along with the mildness of its winters, other grounds for preference on the part of some visitors.

Lying along the margin of the sea, to which it is fully open on the south and south-west, Barcelona stretches backward over a narrow fertile plain, which gradually rises, at a distance of from two to three miles, into a belt of gracefully formed hills. The effect of these hills is to screen the town, in great measure, from northerly winds; whilst being far below the ordinary snow level, they do not give rise to the descent of volumes of chilled air. With the exception of the lofty summits of the Monseny, they serve also to exclude, even from view, the masses of mountains that arise almost throughout Catalonia. To the west, the plain is bounded by the Monjui, a hill six hundred feet high, which extends to the sea, and may be reached from the town in a ten minutes' walk.

These accidents of locality exercise a favourable influence upon the climate and salubrity of Barcelona, to an extent susceptible of ready proof. Thus we find by inspecting the subjoined table, that Barcelona, lying in a degree of latitude between those of Rome and Naples, enjoys a winter and annual

temperature considerably warmer than either of those places; whilst Lisbon, three degrees further south, does not possess a corresponding increase of temperature.

	LATITUDE.	ANNUAL TEMPER.	WINTER TEMPER.
Rome	41·53°	60·70°	48·90°
Barcelona ...	41·22	63·14	50·18
Naples	40·50	61·40	48·50
Lisbon	38·	61·	52·

Again, it has been ascertained by Don Agustin Yañez, that the habitual winter temperature of the littoral country, half a league to the east or a league to the west, is from five to seven degrees colder than in the town itself, although the level as regards the sea is the same in each case. This difference in favour of Barcelona is owing, chiefly, to the descent at the other situations of volumes of cold air from the higher regions, through those openings in the mountains by which the rivers Llobregat and Besos enter the plain.

In regard to salubrity; intermittent fevers are rarely found to attack persons whose residence has been confined to Barcelona, although only a league off is a broad expanse of low marshes and rice swamps, among which the Llobregat winds. In this latter situation agues and remittent fevers are very rife. The miasmata meet, however, with an effectual barrier to their extension towards the town in the Monjuic, which, running down to the sea, stands like a wall between the swamp and the fever

on one side, and the dry section of the plain and immunity on the other.

The soil around Barcelona is, for the most part, a calcareous clay; but in the lower parts, such as the gardens of San Bertran, which were formerly covered by the sea,* it is of an alluvial or sandy nature. There are no where standing waters, and the slope to the sea, before mentioned, is continuous.

The climate is essentially temperate, for, while the average degree of winter, 50·18°, is high, that of summer, 77°, is pretty moderate for the latitude. The ordinary annual range is about 48°, the mean extremes being 37·4° and 86°. It rarely happens that the thermometer descends to zero, and several winters may pass without the appearance of ice. Through a series of fifty-five years the lowest degree of cold was 24°, and during the same long period the mean annual temperature varied only 4½°.

The average daily range is 7·2°, exhibiting the steadiness of the climate in a very favourable light. In the months of January and December it is 5·4°, and attains its maximum 8·6° in May and April. Then come the three summer months. The remainder occupy an intermediate position, the range gradually diminished as they are near the winter months.

Rain falls on sixty-nine days; an average deduced from twenty years' observation. Compared with most other parts of the Spanish Mediterranean, this number is high, and is owing probably to proximity

* Don Antonio Llobet y Val-llosera. Descripcion Jeognostica, &c., in the Bol. de la Acad. de Cienc. nat. y Artes, 1840.

to the Pyrenees. Indeed, many of the Barcelonese, in happy ignorance of what happens further north, consider their own climate as damp and rainy, and complain of a few passing days of rain and clouds. How far they have reason, the following table, condensed from a later paper of Dr. Yañez, will explain. The average is furnished by twenty years.

METEOROLOGICAL TABLE OF BARCELONA.

	Days on which there was rain.	Days on which the sky was overcast.	Days on which there were some clouds.	Days wholly cloudless.
DURING THE YEAR	69	75	147	143
DURING THE MONTH				
January	5	8	10	13
February	5	7	11	10
March	6	7	12	12
April	7	8	13	9
May	7	7	14	10
June	5	4	13	13
July	4	4	13	14
August	6	4	14	13
September ...	7	6	13	11
October	7	6	13	12
November ...	5	7	11	12
December	5	7	10	14

It may be added that on many of the one hundred and forty-seven days set forth in the third column, the full influence of the sun was enjoyed, the clouds merely showing themselves about the horizon.

The most inconstant months in the year are April and May. At that period the variations between sunshine and shower are most frequent and sudden;

and, as we have just seen, the daily range of temperature attains then its highest point. The air also on the sunny days is often highly stimulating, even in the absence of winds, so that in any affections in which the nervous element is much concerned, it will be found to disagree.

The town is favourable to health and the people are long-lived, and, like the Catalonians in general, are a hardy and active race. Scrofula is an uncommon affection among the labouring population, including the very numerous class employed in the cotton factories, who are industrious to a proverb, and being unrestricted as to time, often work for thirteen hours in the day. It should be mentioned that their diet is good, admitting of fresh meat daily, and that they are temperate in their habits. Continued fever, often of the typhoid form, is one of the most common causes of death and, according to the best information I could procure, about twenty per cent. of the fatal maladies are those of the chest. In regard to other diseases—the hospital tables, which I had an opportunity of inspecting, did not present any results of a peculiar nature.

The climate in addition to its superior mildness, —and in the spring, I found the vegetation about Barcelona between three and four weeks more forward than at Perpignan—possesses something of the same character as in the choicer parts of Rousillon and Languedoc. It will, therefore, be of service in cases of atonic dyspepsia. But it has the advantage of being comparatively free from the strong cold dry winds of those provinces, exposure to which is so

pernicious to a weakly stomach, being almost always followed by constipated bowels, a constricted skin, nausea, and labourious digestion. On the rare occasions when such winds blow in Barcelona, recourse must be had to the facilities for taking exercise on the sheltered side of the town. In addition to the favourable effects of the air on the process of digestion, there is something in the movements of the port and in the handsome town, where everything looks busy and animated, well calculated to infuse something of the same spirit into the melancholy or hypochondriacal invalid.

Of other ailments, it may be added that, when there is a tendency to irritation or inflammation, the climate will probably disagree. This will be a clue to the kind of chest diseases for which it may be recommended. Its merits too will be admitted by the increasing class of semi-invalids and pseudo-invalids, who wander among the Pyrenees in the summer, and many of whom, not content with the temperature of Pau, seek a milder, and at the same time an accessible, abode for the winter. There is a tolerable carriage road from Perpignan, and the distance is performed by diligence in a day and a half, the night being spent at Gerona. A more rapid passage may sometimes be made by steamer from Port Vendres.

Barcelona, although containing, with its suburbs, 230,000 inhabitants, offers excellent opportunities for exercise. Elevated ramparts extend all around the land side, and command pleasing views of sea and mountains. There is a public garden within

the walls, and through the centre of the town runs the Rambla, a noble promenade of several parallel avenues of trees nearly a mile in length. For a sea-walk the Muralla del Mar yields only to Cadiz among Peninsular towns. It is completely sheltered from the north, and enjoys the sunshine all day. Hard by is a landmark of no small interest in the history of civilization. The passage in the wall may still be seen through which, so far back as the time of Charles V., a vessel propelled by steam, is said to have issued forth upon the sea. There are no houses so desirable as residences for invalids as those which look upon this wall, for the sun on every fine day will supply the place of a fire. Most of the streets are open to the objection, common enough in southern towns, of being alternately hot and cold.

Those who can dispense with the attractions of the town, would do well to take up their abode upon the slope of the little hills to the north. A mile and a half off is the suburb of Gracia. It is approached by a road bordered by trees and gardens, along which omnibuses ply many times a day. Immediately outside of the town the ground begins to rise, and numerous villas, or quintas, as they are here termed, are scattered about. The porous soil consists of decomposed granite, of which rock the hills are composed. These latter attain a height of about 800 feet, and are thrown about into picturesque and graceful forms; whilst corn-fields, orange-gardens, vineyards, and groves of olive trees, mingled with the cheerful carob or locust tree,

which here first makes its appearance, and is to be met with throughout the coast country into Andalucia, climb their sides, or cluster in the valleys that run up among them. Many inviting walks are to be found among these hills, all accessible on horseback. The lower views are always agreeable, and from the summit may be seen, peeping out among the jumbled sierras, the celebrated Monserrat, one of the most remarkable mountain objects in the world.

As we were walking on these slopes towards the end of December, whilst enjoying the hospitality of the English consul, the air had the warmth and softness of a June day, hedges of roses were in full blossom, and although the orange and lemon trees were covered with golden fruit, their flowers still filled the air with fragrance.

House room can generally be obtained among these quintas, and if a favourable situation is secured, it will have some advantage over Barcelona on the score of warmth.

The markets of Barcelona are well supplied, for the Catalonians are an hospitable people and decidedly inclined to good cheer; and the town being very wealthy, many of the luxuries which money commands are to be found there.

Catalonia abounds in medicinal springs, offering almost every variety of composition. The sulphur baths of Esparraguera were used during several months by the present Queen of Spain. At Mon-

cada, two leagues from Barcelona, are some waters highly charged with iron and carbonic acid. Their virtues are greatly extolled, and, at certain seasons, large quantities are sold in the streets of Barcelona at a cheap price, so as to be within reach of the poor.

CHAPTER XV.

SUMMER RESIDENCES IN THE PENINSULA.

The northern provinces—Vigo—Corunna—Gijon—Santander—Portugalete—St. Sebastian.

SPAIN possesses a more varied climate than Italy. In the latter country it is rarely advisable for a delicate or nervous invalid to pass the summer months; the air, although the actual heat may not be great, being everywhere south of the Alps of a more or less irritating nature during that season.

The whole northern coast country of Spain, refreshed and moistened by the Atlantic breezes, enjoys a summer climate very similar to that of England. This extensive district comprising the provinces of Galicia, the Asturias, Santander, and the Basque country, is made up of mountains, green hills and dales, rivers and forests; whilst fertile pastures, fed by innumerable herds, winding lanes, hedgerows, and gabled houses, embosomed in trees, draw the resemblance still closer to our own country. In the more mountainous parts maize is almost the only corn crop that is raised; but in parts of

Galicia there is an extensive cultivation of wheat, and the wine is often of a very choice description.

The climate is temperate throughout the year, and the air, in many parts humid, is sometimes relaxing; these properties increasing more and more as we recede from Galicia towards the French frontier. Still, although comparatively moist, and during the winter very rainy, it is favourable to health, much of the soil being inclined and reposing upon limestone rocks. Notwithstanding the extreme poverty of the inhabitants of a large portion of the district, the badness of their food, and the wretchedness and often filth of their abodes, they are a strong, hardy, enduring, and, on the whole, healthy race. The fresh, ruddy hue of their complexions contrasts with the transparent, sallow pallor of their southern countrymen; whilst the soothing nature of the air they breathe has produced a no less marked influence on their moral constitution and habits. The use of the knife, so common with the excitable inhabitants of the south, is replaced in the quarrels of the northern Spaniards—which however are by no means frequent—by that of the cudgel; and the houses of the latter, no longer gathered together in communities for purposes of mutual protection and security, are scattered over the face of the country, whole villages existing, indeed, in which the doors are unprotected at night by fastenings.

The whole of this country may be traversed in equestrian excursions; and, although the roads and the inns, whenever the chief lines of communication are left, are usually bad, much of the scenery is at

least equal to anything of the kind in Switzerland, at the same time that it is infinitely more novel.

Steamers plying between Malaga, Cadiz, and Lisbon, and various ports on the Atlantic coast, Vigo, Corunna, Gijon, Santander, Bilboa, and St. Sebastian, render these places easily accessible from the south, in the event of objections existing to the land journey. Most of the towns just mentioned are much resorted to by the Castilians during the summer, for the purpose of sea bathing, as well as for the sake of the temperate air. Hence they are to a considerable extent provided with those accommodations and necessaries of life, a supply of which is usually secured by a concurrence of visitors.

A very brief account of these places is all that our limits will allow.

Vigo, the residence at present of an English consul, is remarkable for the size and magnificence of its harbour, and for the grand and varied mountain scenery by which it is surrounded. The town itself, which has a tolerable inn, possesses but little attraction, but it is a good locality for boating excursions, and in the neighbourhood, about Pontevedra, may be found some of the richest scenery in Galicia. The air is tolerably dry and bracing, and the north breeze habitually blows. Palms grow here.

Corunna, or La Coruña, independently of its stirring associations with the name of Sir J. Moore, is a much more interesting place than Vigo ; it is also far more cheerful. The town is built on the margin

of a beautiful harbour, and occupies a considerable portion of a rocky promontory that runs out into the sea. The air is salubrious, but less dry and bracing than that of Vigo. The skies at both places are often extremely beautiful. There is an excellent sandy beach for bathing, and a variety of good walks and drives; the country in the direction of Betanzos being singularly rich and diversified. Provisions and fish are abundant and cheap, and the inns and lodging-houses fairly good. Corunna is a three days and nights' journey by the mail from Madrid, along an excellent road. When it is possible however the journey should be divided into several stages.

Gijon, a cheerful seaport in the Asturias, distant fifteen miles by a good road from Oviedo, is also built, in part, upon a rocky promontory advancing into the sea. It is a very healthy place and escaped any visitation of the cholera, which ravaged the neighbouring city of Oviedo and the province generally. The winter climate is very mild. Hotel accommodation is tolerable, and there is a fine sandy beach for bathing. The extensive public library in the college possesses a good collection of English books, the gift of Sir Thomas Dyer, who resided here for many years.

The country in the immediate vicinity of Gijon is without any striking features; but the lovers of pastoral and alpine scenery may be amply gratified by an excursion, in almost any direction, into the province. The botany and zoology are extensive and varied; the rivers abound with fish, and the

waste lands and forests with great and little game ; * whilst the traveller who takes an interest in primitive church architecture will find, often buried in the recesses of the mountains, many of those unpretending but characteristic temples, unchanged since the time when bishops, driven from the interior of the country by the invading Saracens, officiated at their altars as simple parish priests.

SANTANDER is situate on the shore of a spacious inlet of the sea, somewhat more than a mile from its mouth. The scenery is perhaps more remarkable for beauty than that of any similar situation, even in Spain ; not excepting the harbours of Vigo and Ferrol. Hills and mountains, commencing at the water's edge, rise behind each other, row after row ; and there is sufficient variety and interruption in the outline, to furnish prominent objects for the eye to dwell upon. In other parts, the view, embracing the spacious water, calm and land-begirt like a lake, extends from the more gentle and graceful features of the foreground, clad with verdure even in mid-winter, to the lofty and rugged sierras that rise in the distance.

The modern part of Santander is extremely well built, the houses being large and handsome. It is very cheerful and busy, and is very much resorted to during the summer by the inhabitants of Madrid and the interior generally of the country. It has at that time the air of a fashionable watering-place.

* Spaniards apply the term game to all animals that are hunted, from bears down to sparrows.

The climate, which is rather relaxing, is cool in summer; temperate, but damp, in winter. In the month of January, 1850, which was unusually cold in Spain, we were three weeks imprisoned in Santander by snows that had choked up the mountain passes through which the roads lead. In the town itself, however, there was neither frost nor snow, and oranges blossomed and were covered with fruit in the open air.

The walks and drives are of a very superior kind. One of the latter, called the Paseo Alto, more than a league in length and planted throughout with trees, is carried along the tops of some green hills. It forms a circuit round the town and commands charming views, constantly varying, of the sea and harbour and fine country. The alameda is a very favourite walk, and its upper part affords another admirable prospect.

Santander is well supplied with provisions, and the fish is proverbially good.

Steamers proceed direct from Liverpool and also from Havre to Santander.

PORTUGALETE, at the mouth of the Nervion river, is another cool bathing place. It is much frequented by the inhabitants of Bilboa, from which pretty and agreeable town it is distant six miles.

ST. SEBASTIAN sometimes becomes the abode, during the summer, of members of the royal family of Spain. The country is pleasing, and the sea views over the Bay of Biscay, from the castle-rock,—a

never-tiring promenade,—are remarkably fine. The town, which is new since the famous siege, is well built, but the streets are too narrow. Good accommodation may be had in some of the private houses, and the provisions are excellent. The inns are indifferent. The air is of a soothing nature, partaking very much the character of that of the south-west of France, and is well suited to calm the nervous excitement which a residence in Madrid may have produced.

I have already spoken of Cintra and Ronda, of Aranjuez, La Granja, and the Escurial, as places of summer residence; and to these may be added the town of Caldas da Rainha in Portugal, an agreeable and fashionable summer watering-place, fourteen leagues from Lisbon, and famous for its sulphur baths. Various other parts of the Peninsula, particularly the valleys of the Pyrenees, on the Spanish side, and the province of the Upper Beira, possess cool and healthy climates; but the accommodations and the roads are so bad, and they have been hitherto so little visited, that they are not to be recommended to persons who may, in any sense, be considered as invalids.

CHAPTER XVI.

ALGIERS.

Accessibility—Situation—Advance of civilization—Climate—Salubrity—Statistics in reference to the infrequency and the curability of consumption—Invalids for whom the climate is suitable—Uterine pathology—Blidah—Bône and Oran—Tangiers.

ALGIERS may be reached easily in five days from London. It is, indeed, far more accessible, according to the ordinary modes of travelling, than any part of southern Italy and than most of the places described in the preceding pages. The climate is very mild and healthy, and well adapted for chest complaints, both those of the heart and of the lungs. Civilization has taken deep root there; so that good hotels, a good *cuisine*, and the other usual resources of a large French town, are to be met with. Excellent steamers, taking the passage between Majorca and Minorca, reach Algiers from Marseilles in forty-eight hours; sometimes in two or three hours less.

The situation of Algiers is very imposing and beautiful; particularly when viewed from the sea. It lies upon the west shore of a spacious open bay,

at the distance of a few miles from its mouth. In form the town is a pretty regular triangle, the base of which rests upon the sea, and comprises a narrow strip of level ground; whilst the greater portion climbs the steep face of a hill side, where myriads of flat-roofed houses, all packed so close together that the labyrinth of narrow and tortuous streets by which they are traversed is not visible, glitter with an almost dazzling, semi-transparent whiteness amid the glowing blue sky.

Lofty parapeted Moorish walls, still almost in a perfect condition, although regular fortifications on a grand scale are rapidly taking their place, mount upwards from the sea and form the sides of the triangle. Above all are seen the embrasures of the Kasba, the fortress palace of the Dey, whence, in our own times, his cannon looked down with threatening upon the rebellious Algerines.

Stretching away, on all sides of the town, are gentle hills, with valleys and ravines, thrown into graceful and varied forms and wooded with many different kinds of trees; among which the most conspicuous are the wild olive, a larger and finer foliaged tree than the cultivated variety, and occasionally palms and cypresses. Here and there, the hills are dotted with gardens and plantations, and smiling villas, formerly the summer abodes of wealthy pirates, but now, belonging for the most part, to hospitable Europeans. Beyond all, the distant ranges of the Atlas mountains, covered for nine months in the year with snow, rear their glittering summits.

There are but few modern undertakings to be seen in France itself, that afford so favourable an idea of the energy and enterprise of the French, as the present state of Algiers. During their twenty years of occupation they seem to have wrought more of change in many parts of the town, than the Spaniards have effected in Granada, Seville, Valencia, and other places, during the centuries for which they have dispossessed the Moors. The symbols of the Crescent are everywhere falling away before those of the Cross. Whole districts are to be seen indeed, where everything, excepting the native population, recalls to mind the modern parts of Paris. There is, perhaps, less of what is English in Gibraltar, than of what is French in Algiers.

Spacious quays have been constructed and immense moles have given safety to the harbour; fortifications, on a vast scale, have been thrown up, the neighbouring country is traversed by excellent roads, and along with hospitals, a model prison, public gardens, &c., have made the city of the Dey leap by a single bound, from a state of barbarism to one of advanced civilization.

In a social point of view certain other results of advancing civilization may be observed. There are more hair-dressers, perfumers, cafés, billiard-rooms, tobacco shops, singing and dancing places, &c., in this miniature Paris, than could be found, probably, in any city of similar size in France itself. Even the little town of Blidah, at the foot of the mountains, has its Tivoli gardens. On the other hand, the Moorish mosques, even during the performance

of ceremonies, are no longer secure against Christian footsteps ; whilst Arab shoeblacks, gamins, and commissioners, appear in the streets at every corner. It would seem also that many of the vices of Europe have acquired a deplorable growth by transplantation to a warmer climate.

A modern street, with Parisian arcades, the Rue de la Marine, leads from the landing-place to the principal square, the centre of the lower part of the town. Here is the best hotel. On three sides are handsome buildings and shops, whilst the fourth forms a balustraded terrace raised high above the sea, over which, the blue bay and the port, the villa-dotted hills, and the snow-capped Atlas, it commands most pleasing views. This is the chief place of lounge, and during the daily performance of the military band, it is crowded with the motley and picturesque population ; the natives in their varied costumes, Moors, Turks, Jews and Negroes, Spaniards, Mallorquins and Mahonians, Maltese and Italians, Germans and French.

Two principal streets, diverging from the square, intersect the level part of the town, from north to south. They are those of Bab Azoun and Bab el Oued, and lead respectively to the gates and suburbs bearing their names. These streets are broad, well-paved, and decidedly handsome, whilst arcades run throughout, imitating, as do the shops and most of the modern houses, the style of street building in Paris.

The climate of Algiers experiences but little varia-

tion in its general characters from one year to another. The well-marked division of the year into four seasons observable in Europe, does not exist here. The winter differs from the spring only in its more abundant rains; and the autumn is hardly distinguishable from the summer, excepting in an increase of humidity in the air.

The rainy season embraces the months from November to February, inclusive; but during this time by far the greater number of the days are beautifully fine. From March to May the air is extremely soft and temperate, and rains occur but seldom. These two periods may be said to constitute the winter, during which vegetation develops itself with most luxuriant activity.

The summer season extends from mid-June to October, inclusive. The earth at that time becomes parched and herbless, and the temperature often overpowering, and this rather from the persistency of the heat, the absence of rain, and the hurtful influence of the desert wind, than from the degree of temperature, which is scarcely higher than in some parts of Europe. Still, in the coast country, the air is refreshed by daily sea-breezes.

The mean annual temperature of Algiers is 64°, which is nearly identical with that of Madeira, but rather lower than that of Malaga, an advantage on the side of the latter place, due, in all probability, to its superior protection from the north winds. At the same time the latitude of Algiers, being 36° 47″, is somewhat more to the north than that of Malaga. The actual extremes were 97°,

which was brought by the sirocco, and 32°, to which the temperature descended once only in seven years. The difference, 65°, represents the extreme range.

The mean temperature of winter, *i.e.* December, January and February, is 54°, which is nearly identical with that of Malaga, but considerably warmer than the winter of any other place in Europe of which the temperature is known. The mean of spring is 60·5°; of summer, 74°; of autumn, 68°.

January is the coldest, August the hottest month.

The barometric condition of the atmosphere is remarkably steady; whatever the weather may be, it varies but a trifle.

Rain falls on 57 days and 50 nights in the year.* The annual quantity is 37 inches. Of this quantity nearly a half falls in the winter quarter, about a fourth in each of the spring and autumn quarters, whilst the summer is almost rainless. So that there is a very rainy and a very dry season, separated by two that are moderately rainy.

Sometimes the rain is very heavy, and occasionally lasts for 36 hours at a time; but the favourable slope of the ground, the well paved streets and roads, cause it to flow rapidly from the surface. The quantity falling by night, moreover, far exceeds that which falls by day.

Fogs, so dense as sometimes to render navigation dangerous, occasionally form at Algiers, and on the coast country generally; but this happens almost exclusively during the summer.

* M. Don Annuaire Météorologique de la France, for 1850. The result of ten years' observation.

The winds in Algeria blow in two prevailing directions; a lower current coming from the north, an upper from the south. The former winds prevail almost throughout the winter, and in the interior of the country they are very cold; but their temperature at Algiers and on the coast country generally, is softened and warmed by proximity to the sea.

The upper current of air, which comes from the desert, maintains, during the colder months, a pretty uniform height above the surface of the earth. This height may in some situations be readily measured.* Thus at Bouffarick, in the plain of Metidja, near Algiers, the poplar trees, planted in a favourable moist soil, grow vigorously until they attain a height of 25 or 30 feet. Their development in that direction is then suddenly arrested; the tops become seared and wither, for they have come into contact with the hot desiccating air of the desert, and henceforth all further growth takes place horizontally.

In the summer, however, the upper current, which is, in fact, the simoon or sirocco, descends to the surface, in some parts habitually, but at Algiers only occasionally. The effects of this wind upon the human health and upon vegetation are most pernicious; but as the invalid would not be recommended to remain in the country during the season in which it blows, it furnishes no objection to a trial of the remedial value of the climate of Algiers.

In addition to what has been already set forth,

* Becquerel, Des Climats.

the state of vegetation offers another indication of the warmth of the climate. In reference to this point, the observations made under the head of Malaga will apply pretty accurately to Algiers. I may add, that in the garden of the Hôpital du Dey, in the latter place, bananas were growing in the open air, and the fruit, some of which I gathered, seemed to be quite equal in size and flavour to that which is brought from the West Indies.

Algiers is remarkable for the salubrity of its situation. Not the least of the proofs of this circumstance is furnished by the immunity which the town has usually enjoyed from severe epidemics.* The plague has never been generated there, and whenever this disease has been introduced from Egypt, it has soon disappeared without becoming general. These facts assume a more important aspect, when it is borne in mind that the Moorish part of the city is well calculated to create an unwholesome atmosphere. The sun and the breeze gain only imperfect access to the streets, which are both narrow and crooked, whilst the upper stories of opposite houses closely approach each other, and often the houses themselves are built upon arches over the streets. Under these circumstances wet and filth always accumulate.

The subject of the curability of consumption of the lungs by change of climate again comes under consideration in connexion with Algiers; and the

* Martin, Manuel d'Hygiène.

labours of the French physicians, fortunately, enable us to approach the question with something like confidence as to the satisfactory nature of the evidence. There is no place among those that have been recommended for the cure or relief of this disease that has had the advantage of an investigation of its merits so comprehensive and scientific, as Algiers, and some other parts of the colony. And the result is, that different observers, pursuing their inquiries in different parts of the country, come to the conclusion that consumption is a disease of extreme rarity in that tract of Algeria which lies between the sea and the mountains. A brief review of the evidence cannot but be acceptable.

The wholly exceptional occurrence of consumption among the indigenous population is a fact upon which physicians in Algeria are agreed. It is hardly to be met with, unless, occasionally, among the negroes, who have migrated from a much warmer climate, or among the Jews, whose manner of life, and sedentary and constraining occupations, for they are mostly tailors, strongly predispose them to the disease.* This immunity decreases as we recede from the coast, and approach the more elevated regions of the interior; so that at Constantine, which is situated among the mountains, where the summers are extremely hot and the winters cold, the disease is not uncommon.

Among 1480 patients in the practice of M. Haspel, at Oran, three only had consumption, and out of every 138 deaths, one only was attributable to that

* Martin, Manuel d'Hygiène, &c. Alger, 1847.

disease. M. Jourdain met with but 13 cases in 8485 patients, and but ten deaths from phthisis in 871 deaths. M. C. Broussais, also, out of 41 deaths in Algeria, had but 2 (1 in 20) from phthisis, while in Paris he met with 1 in 5 from this cause.*

According to statistics furnished by MM. Guyon and Bonafond,† it appears that of the deaths which occurred among the civil (European) population of Algiers, during six years, one only in 40 arose from consumption. In the military hospital of Bône, M. Moreau had one death from phthisis in every 41 of the general mortality.

Putting these facts together, it would seem that, in every 622 cases of disease, one arises from consumption, and in every 75 deaths one only is due to this disease; or, taking the three least favourable of the above reports, one in 34.

Now in Paris the deaths from consumption are as one to five, and in London the proportion is very nearly similar. So that it is just fifteen times more probable that an inhabitant of those cities will die of consumption than one who resides in Algeria.

Even supposing that further experience should very considerably modify the favourable character of these statistics, we should still look in vain in all that has been written about Madeira, for any testimony in favour of its climate of a nature so comprehensive and so encouraging.

M. Foley, the able and observant physician of the Civil Hospital at Algiers, whose acquaintance I had

* British and Foreign Medico-Chir. Review, 1852.

† Martin, Op. Cit.

the pleasure of making, assured me that his general experience, both as to the comparative infrequency of phthisis at Algiers, and the remedial influence of its climate upon that disease in the case of Europeans, justified him in recommending Algiers, most strongly, as a place of winter residence to persons so affected. It is true that in the hospital just mentioned I saw several cases of phthisis. Negroes were the subjects of two of these cases, whilst the others were Europeans, persons, as I understood, for the most part either destitute, victims of the dissolute mode of life so prevalent in Algiers, or more or less afflicted with the disease before their arrival in Africa.

In summing up the advantages which Algiers offers to consumptive patients, I cannot do better than quote the remarks of M. Martin, physician to the hospital of the Dey, whose extensive and protracted experience entitles him to speak with great authority on the subject.

Pulmonary consumption, he says, experiences much more relief in the climate of Algeria than in that of Europe. Not only does it march with a slowness which gives nature time to organise her means of defence, and therefore of cure; but further, in modifying the constitution, it causes the latter to lose the tuberculous susceptibility. Nothing, in fact, is more rare among acclimatized Europeans than consumption generated in Algiers. Each winter or spring brings to our military hospitals young soldiers, more or less debilitated by endemic diseases, who remain for a long time in these establish-

ments, where very often they contract bronchitis or pneumonia, without, so to speak, ever leaving their beds, so slight is their power of reaction. Nevertheless, all these affections of the chest may be prolonged for months, may pass into a chronic state, if indeed they have not commenced in a latent or subacute form, and death may be the consequence, but tubercle in the lung will be rare indeed.

Never, I may affirm, during many years, that my attention has been fixed on this point, has a pneumonia originated under my eyes, degenerated in this manner. I do not mean to say, however, that such has never been observed; I simply assert the extreme rarity of the fact when contrasted with what is seen in Europe. I conclude, therefore, that there exists a sort of antipathy between the climate of Algeria and the development of tubercle in the lungs. Hence the advantage which consumptive patients would find from inhabiting this country, whether to eradicate their disease, to moderate its symptoms, and thus permit them to arrive less painfully and less rapidly at the fatal goal, or, in fine, as a means of effecting their cure.*

It may be repeated in this place, that cases of consumption in an advanced state should never be sent to Algeria, migration to a warmer climate under such circumstances having the effect, very often, of hastening the fatal termination of the disease.

The proper period for arriving at Algiers is the month of November. The previous few weeks

* Martin, Op. Cit.

might very advantageously be spent at the Spanish port of Mahon, in the isle of Minorca, which lies half way between Marseilles and Algiers. The latter place will not become disagreeably warm for invalids until May or the beginning of June. French physicians, several of whom are deservedly eminent, might be consulted as to the eligibility of different places of residence in the town, and on other points upon which information is sometimes required by the invalid on a first arrival.

Among other diseases that are much benefited by the climate of Algiers are chronic affections of the heart, gout, and rheumatism. At the same time, the latter disease is by no means unfrequent among those persons who are exposed to atmospheric vicissitudes, whilst it rarely attacks those who manage themselves prudently.

Renal diseases are very rare; still M. Foley had seen cases both of Bright's disease and diabetes. Typhus fevers sometimes prevail; and to persons who have resided in unhealthy districts, intermittent and remittent fevers and dysentery are of common occurrence. The latter disease, in cases in which there is reason to apprehend ulceration of the lower bowel, is often treated by injections of nitrate of silver. Diarrhœa prevails, as in other hot countries, during summer and autumn.

All nervous diseases become aggravated in this country. The freedom from such complaints ought therefore to be a necessary condition in every case, before a trial of the climate is recommended. Apoplexy and palsy, cerebral congestion, epilepsy and

convulsions, are very common, both among the natives and the settlers. The influence of the climate in the production of these diseases is, however, much more strongly marked in the warm than in the temperate portions of the year.

At Blidah, a small town 30 miles to the south of Algiers, I was informed that in one of the summer months during which the simoon prevailed, as many as eighty young children of the settlers died. They were affected with a kind of cholerine, and in almost every case death was preceded by severe convulsions.

The activity of the uterine system in Algeria is a fact deserving consideration in connexion with our subject. Among the indigenous population the catamenia are established at the age of nine or ten years, and it is at this period that the veil is first used. Even in the case of French girls born in France and coming to Algiers, the critical function becomes developed, as a general rule, not later than the age of twelve.

Unless precautionary measures have been taken, and often despite of them, Europeans, on arriving at Algiers, are extremely liable to suffer from menorrhagia; and in cases in which there is a tendency to nervous diseases, it is associated with severe hysteria, convulsions, or epilepsy. As a general rule, indeed, the condition of the periodic function is one of excess, when measured by a European standard, although this seems to be due less to relaxation of the system than to the stimulus of the climate. M. Foley informed me that he had known the process taking place, in the case of more than one French

woman at Algiers, simultaneously with the existence of gestation and lactation. Nor is it an event of uncommon occurrence for the catamenia to recur at the usual intervals during the first half of the term of gestation; so that doubt is frequently existing for some time in the mind as to the existence of that state.

The fact that many emigrants, coming from Europe, are much more prolific in Algiers than they had been in their own country, has often presented itself to M. Foley's observation. Viewing this circumstance in connexion with the indications of augmented uterine activity mentioned before, it is well deserving consideration, whether a temporary abode in Algiers, or in some other climate similarly constituted, might not be beneficially prescribed in some cases, with a view of rousing into action the dormant energies of the uterus.

Child-bearing among the Moorish population extends from the age of thirteen or fourteen to thirty years; seldom beyond the latter age. Labours, contrary to the opinion often held in regard to warm climates, are not unfrequently difficult and even fatal in their results. Hœmorrhage is one of the most common sources of danger; but malposition also occurs. The proportion of still births—still referring to the indigenous population—is one in eleven.

Little remains to be said in reference to the particular class of valetudinarians, who may find it beneficial to pass the winter and spring at Algiers. Cases, not only of phthisis, but of bronchitis, heart

disease, and other chest affections, in their chronic forms, as well as several other states of disordered health, in which change of air and scene are beneficial, may be included in the number of those that are favourable for a trial of the climate. With a view of aiding a decision, when considering the fitness of any particular case for such trial, it should be borne in mind, that the air of Algiers, like that of Malaga, posssesses a moderately bracing quality. All persons, on their arrival in the colony, will find it advisable to attend to those precautions as to regimen, previous to acclimatization, which have been detailed in Chapter V.

Algiers, as might be expected, has no fine arts. But there are the ordinary amusements of a gay French town, with military music and spectacles, and an unusual opportunity for acquaintance with the peculiarities of Moorish life.

The public gardens are accessible and well laid out; and the walks and drives, whether along the shores or among the wooded hills, are extremely beautiful and varied. During the spring, the latter present an additional charm in their thickets of pomegranate trees, which are then covered with crimson flowers. The roads are excellent, and omnibuses and other kinds of public conveyance, which ply at fixed tariffs, abound.

BLIDAH.

The town of Blidah, a considerable military station, distant about thirty miles from Algiers, along a good

road well supplied with public conveyances, would afford the opportunity to invalids of an occasional change of residence. The climate is considered to be healthy; and the air is somewhat colder and more bracing than that of Algiers. The town, which is both sunny and cheerful, lies near the foot of the mountains, on one side of the great plain of the Metidjah; and is famous for its orange gardens. The scenery is pleasing and there is a very good hotel.

In cases in which the chest is not particularly delicate, the excursion might be extended from Blidah, if the weather were favourable, along the gorge of the river Chiffa, where a fine military road has been constructed, to Médéah; which would afford a still better opportunity of observing the character of the country and the habits of the indigenous population. The winters, however, at this latter town, which lies at an elevation of two thousand feet above the sea, are far too cold for any pulmonary invalids.

BÔNE AND ORAN.

These two cities lie upon the coast; one to the east, the other to the west, of Algiers, from which they are nearly equi-distant. They may be reached by steamers, which leave Algiers about once a week, and touching at several intermediate ports, afford the opportunity of frequent change of scene.

Bône is one of those places, in which the greatest immunity from pulmonary consumption has been observed. The climate is mild; but having no per-

sonal acquaintance with the town, I am unable to say in what degree it may possess those other qualifications, which are essential to a place, where the residence of invalids is concerned. Fevers are sometimes very prevalent here.

Oran possesses one of the mildest and most healthy climates in the colony. The town, which is the second in importance in Algeria, is remarkable for the picturesque beauty of its environs. The hotel accommodation is good, and the ordinary wants of a traveller may be abundantly supplied here. Judging from statistics published by French physicians, the climate of Oran would seem to be almost equally favourable with that of Algiers, in the treatment of pulmonary complaints.

TANGIER.

Tangier affords so good a specimen of a Moorish town, and may be so easily visited by persons who have taken up a temporary residence in Gibraltar, that a passing notice of its hygienic condition is here subjoined. The passage, across the straits, may be made in the Genoese or Moorish boats, which trade between Barbary and Gibraltar with provisions and Manchester cottons. It may also, sometimes be made, more conveniently, in a government steamer.

The information I am able to give on the subject of the climate, as well as the interesting account of the diseases, &c., was obligingly placed at my disposal by Mr. Drummond Hay, the Consul-General of

Morocco, who recorded, during several years, daily observations on the meteorology of Tangier.

The indoor temperature in a shaded room, unaffected by artificial or accidental sources of heat, was never higher than 82°, nor lower than 52°. In the open air the thermometer during the day-time was never seen to be lower than 49°. The mean annual temperature is about 67°. Frost is very rare.

There are, on an average, about ninety days in the year on which rain falls; but it rarely happens that there are not intervals, on each of these, during which the weather is fine. February and March are the worst months both for cold and rain. The pleasantest season is from the end of March to the middle of June; and sometimes the month of November is fine throughout.

In the summer the east wind prevails; in the winter, the west. The atmosphere is often remarkably humid, so that it happens, not unfrequently, for iron articles to become rusted, and books or stuffs, spotted with mildew, in a surprisingly short time. The degree of dampness may be attributed in great measure, here as at Gibraltar, to the east wind, during the prevalence of which, when blowing strongly, Mr. Hay has frequently observed panes of glass, in windows in the midst of the town, at some distance from the sea, to be covered with aqueous globules.

In regard to the sanitary condition of the town Mr. Hay observes, that there is very little sickness. Small pox and measles now and then appear in a

virulent form, but the proper means of treatment are unknown among the natives. The country people, and some of the emir's people, are visited every year with agues of a mild character; but Europeans, who are better lodged, are very rarely attacked. Fevers of a more pernicious character but seldom happen.

"A kind of leprosy, called elephantiasis, is rather common here, but is only seen in natives, and among those alone who have resided in Tangier for at least three generations. Plague is unknown, unless when brought by vessels from the east."

"The Moors live to a good age. I know many a hale countryman of 80, and there is a woman at Tangier upwards of a 100, as well as many veterans between 70 and 80. Europeans also are long-lived here; and those who have retired from this country after a long residence, have been known to live to a great age; thus showing that their constitutions had not been impaired by the climate."

The country about Tangier is pretty; and a most interesting ride may be made thence to Tetuan. Even a brief visit to this outlying part of Morocco, which may be made with safety, brings us into contact with a condition of greater barbarism, and a more decided change of scene than are to be found, probably, along any other portion of the northern coast of Africa.

Good food and lodging may be had at the house of Miss Duncan, at Tangier.

APPENDIX

ON

THE MINERAL WATERS

OF THE

PYRENEES, VICHY AND AIX LES BAINS.

General remarks on the Pyrenees—Eaux Bonnes—Eaux Chaudes—Panticosa—Bagnères de Bigorre—Cauterets—S. Sauveur—Barèges—Bagnères de Luchon—Bains d'Ussat—Ax—Vernet les Bains—Vichy—Aix les Bains.

THE PYRENEES.

The judicious employment of mineral waters is often of the greatest use, in assisting the influence of climate in the cure of several chronic complaints. Partly on this account, and partly because the Pyrenean springs are beginning to attract a good deal of attention in this country,—although many of them, from the time of the Romans at least, to the present day, have been highly valued in France—I have thought it might be useful to devote a few pages to their consideration.

Many of the bath establishments in the Pyrenees, moreover, are situated at considerable altitudes among the mountains, and afford tolerably cool places of residence for the summer. They will therefore, in connexion with their geographical position, naturally present themselves as accessible retreats during this season, in the case of many persons who may have wintered in the south of Spain and Algeria, or in other regions bordering the Mediterranean.

Independently of the healing qualities of the waters, which are so bountifully scattered throughout the whole range of the Pyrenees—and at least three hundred springs are known to exist on the French side alone—the scenery, incessantly changing in character, is full of beauty and grandeur. The mountains are not so much broken up into distinct objects, nor are they so lofty as those of Switzerland, the Maledeta, the highest of them attaining the elevation of 11,424 feet only. The seas of snow and of glacier are not so wide and can exist only at greater elevations; nor will the few mountain tarns bear comparison with those fine sheets of water which form so prominent a feature in Swiss scenery.

But the more southern latitude of the Pyrenees provides for them attractions of another kind;—sunny skies, a dry, exhilarating atmosphere, less frequent changes of weather, and above all, a wonderful beauty and profusion of vegetation. The lower valleys present a striking display of sylvan richness, abounding in noble specimens of oak, ash, and walnut,

relieved by green pastures, vineyards, orchards, and maze-fields. And each one has its brawling stream, the waters of which are remarkable not only for clearness and purity, but for the beauty of their tints, which have been likened to those of the beryl and the chrysoprase. In the higher regions, the mountains are clothed, to the limits nearly of perpetual snow, with vast and undulating forests of beech and fir, the sombre hues of which are dispelled by the glowing sun-light. And when the trees can no longer exist, rhododendrons and other alpine plants begin to enliven the ground, and extend upwards to the height nearly of 9,000 feet. I have myself seen hay-making on the plateau at the foot of the Pic du Midi, at an elevation exceeding 6,000 feet; and the crop was good.

Throughout the summer, the meadows and hill slopes are covered with verdure; and on the hills the turf is often so smooth and lawn-like, as to suggest the idea that molten wax might have stolen over the surface. The cheerfulness of the landscape is further heightened by the box and other kinds of underwood, which sprout in profusion from every fissure and ledge in the precipitous fronts of the gaily tinted limestone rocks.

The amusements for visitors in the Pyrenees are of a less artificial kind than those at the German brunnen. There are no gambling establishments as at many of the latter; and although, at several of the baths, occasional balls, concerts, &c., do take place, people are lead to find their resources principally in the open air. Horseback and carriage ex-

cursions or picnic parties, for which almost every locality affords abundant opportunities, provide a health-giving and delightful way of passing the time, very much practised here.

Then the rivers abound with trout, and the fishers are few. The adventurous sportsman too may go in quest of the chamois; whilst occasionally, the whole world at one or other of the baths is kept in a state of excitement throughout the day, by the tidings that a party of guides and visitors have climbed the mountains to hunt bears.

The hotels, although in most places very good, are decidedly inferior to those of the great German baths.

The chain of the Pyrenees, which separates France from Spain, extends from the Atlantic to the Mediterranean, and is about 270 miles in length. It is traversed, at spots where the mountains have almost sunk into the plain, by only two carriageable roads. Of these the western leads from Bayonne to St. Sebastian and Madrid, the eastern from Perpignan to Gerona and Barcelona. The loftiest points are on the Spanish side of the chain; they are between 11 and 12,000 feet high.

The climate, as a general rule, becomes drier and more bracing and exciting, in proportion as we advance from the western towards the eastern end of the chain.

With the exception of a few warm saline and one or two chalybeate springs, the mineral waters of the Pyrenees on the French side are sulphurous.

Travellers proceeding from England usually commence their excursions to the baths from Pau, which is distant about ten miles from the foot of the mountains, nearly opposite the junction of the western with the middle third of the chain. With the exception of the road from Poitiers to Angoulême (68 miles), and from Bordeaux to Pau (120 miles), the whole journey from London to Pau may be made, after crossing the channel, by railway.

The baths described in the following pages, with the exception of those of Panticosa, which lie on the Spanish frontier, are all accessible from Pau by excellent carriage roads.

Eaux Bonnes, distant from Pau -	26 miles.
Eaux Chaudes - - -	26 miles.
Panticosa - - - - -	56 miles.
Bagnères de Bigorre - - -	37 miles.
Cauterets - - - - -	42 miles.
S. Sauveur - - - - -	44 miles.
Barèges - - - - -	47 miles.
Bagnères de Luchon - - -	85 miles.

At each of the baths is a medical inspector, who is well versed in the properties of the different springs over which he presides, and is the most competent person to direct their administration. In the following brief descriptions of particular waters, my chief object has been to facilitate the selection, before leaving home, of the most suitable locality.

EAUX BONNES.

These springs are situated at the extremity of a picturesque mountain nook, 2,000 feet above the

sea, and in the midst of scenery unusually rich, varied, and cheerful,—limestone cliffs tufted all over with box, pastoral hills, undulating masses of beech and fir, and distant mountain peaks. The air is remarkably pure and fresh.

Being one of the most fashionable of the watering places in the Pyrenees, the accommodation is of a very superior kind. The neighbourhood abounds in excellent walks, contrived in all directions, for the use of visitors. One of these winds along the sides of the hill for some miles, and has the advantage of being perfectly level.

The springs obtained great renown, as well as the name "Arquebusade waters," from the cures which they effected among the soldiers of Henri d'Albret (grandfather of Henry IV.), who were wounded at the battle of Pavia. There are three principal sources, the temperature of which varies from 89° to 92°. The use of the waters is restricted almost to internal administration, the supply being too small to permit any other than a very limited employment of baths. The dose varies from one to three or four pints during the day.

The following is the result of the analysis made by M. O. Henry of a litre (1 pint 15 ounces $1\frac{3}{4}$ drachms) of the water :—

Nitrogen	traces.
Carbonic acid . . .	0·0064 grains.
Hydrosulphuric acid . .	0·0055 „
Chloride of sodium . .	0·3423 „
——— magnesium . .	0·0044 „
——— potassium . .	traces.

Sulphate of lime . . .	0·1180 grains.
——— magnesia . .	0·0125 „
Carbonate of lime . . .	0·0048 „
Sulphur	traces.
Silica and oxide of iron . .	0·0160 „
Organic matter containing sulphur .	0·1065 „
	0·6045

Like sulphur springs in general, the waters are stimulating; but they are less so than most of the other sources in the Pyrenees. They have been found to be particularly efficacious in chronic affections of the lungs, when unattended by febrile action, or irritation, such as phthisis in its early stage, and all forms of bronchitis, accompanied with relaxation and copious secretion.

M. Daralde, the inspector of the springs, in his report for 1835, says, that in 33 cases of phthisis, in the first and second stages, the condition of the patients improved, and the cough entirely disappeared under the use of the waters. In 16 cases of chronic laryngitis, with or without aphonia, there were four perfect cures, whilst others were relieved; and of 17 patients effected with chronic pulmonary catarrh, four were cured, the rest gained flesh, and were relieved. In advanced consumption, the use of the waters only hastens the fatal advance of the disease.

In the case of children and delicate persons, whenever sulphur waters are indicated, those of Eaux Bonnes, from their mildly stimulating nature, may be prescribed with safety. They have been found useful in the strumous constitution and in

chlorosis. The spring termed the "Froide," is a good remedy in the latter affection and amenorrhœa, as well as in the atonic form of indigestion, and some forms of spinal complaints connected with debility.

The season extends from the end of May to the middle of September, or even later.

EAUX CHAUDES.

The situation of the Eaux Chaudes is much more wild and romantic, but less cheerful than that of Eaux Bonnes; from which they are distant by the new road about four miles. The village is sunk in a deep gorge, the vale of Gabas, which runs from north to south, and forms one of the passes into Spain. The precipitous limestone cliffs by which it is hemmed in, barely leave room for the houses, the road, and a rapid stream, that flows at the bottom. The circulation of air, however, is very free in the direction of the valley. A little beyond the baths the sylvan views are of the highest order of beauty, and the valley is considered to present one of the grandest scenes in the Pyreenes. The walks and points of view are almost inexhaustible.

The bath establishment, recently erected, is on a large scale, and fitted up with modern conveniences and applicances, including various forms of douche; but, being less frequented by wealthy visitors, the accommodation at the hotels and the lodging-houses is inferior to that at the Eaux Bonnes. Still, large numbers of visitors are attracted here during the season, partly by the well-proved virtues of the

waters, and partly by the charms of the country, and the pure, generally bracing, air.

There are six sources; of which Le Clot is the hottest, the temperature being 95°, and L'Esquirette the most highly mineralised. Some of these are used for baths, and others as internal remedies. The supply of water is abundant.

M. Longchamp found the water to contain sulphuret of sodium, traces of free alkali, of sulphate of lime and of silica. These salts, however, exist in rather small quantities. No arsenic was detected by Marsh's apparatus in a recent examination of the residue of evaporation. All the springs deposit glairine. The odour of putrid eggs is strong, and the taste mawkish and disagreeable.

As a remedy these waters are very valuable; and they often effect a cure insensibly, without inducing any crisis. Patissier says,* that persons who had arrived at the baths crippled with rheumatism, and supported on litters or crutches, may often be seen to return home cured and dispensing with those helps. I have, myself, witnessed striking curative effects in cases of stubborn rheumatism. The spring Baudot possesses virtues in pulmonary diseases very similar to those of the Eaux Bonnes.

They are useful also in pustular eruptions, sciatica, old wounds, chronic thickening about the joints, chlorosis, and amenorrhœa. Latterly they have been topically applied, by means of the ascending douche, in cases of ulceration of the mouth

* "Manuel des Eaux Minérales Naturelles;" a work to which I am much indebted.

and neck of the uterus, and, as I was informed by the medical director of the baths, with marked success. They must not be administered to nervous persons, nor in cases in which there is much irritation. The dose is from two to six glasses in the morning, fasting.

The season begins with July and ends with October.

PANTICOSA.

The Spanish baths of Panticosa, lying on the other side of the Pyrenees, are generally visited from the Eaux Chaudes, from which they are distant eight leagues. The journey is long, but the mule-track over the mountains is good, and far less steep than the shorter path from Cauterets.

The baths are situated at a height of 8,500 feet above the sea, in a green basin, imprisoned on every side, save at one spot that gives passage to the river Caldarés, by lofty granite mountains, the summits of some of which are covered with perpetual snow. A considerable portion of the basin is occupied by a lake, from which the river is fed. Clean, although humbly furnished, rooms may be had, and the *cuisine* is very good. There is also a table d'hôte, or round table, as it is more appropriately termed in Spanish; and the prices of everything, lodging as well as food, are regulated by official tariff.

The springs are four in number; of which two, the Fuente del Higado and the Fuente de los Herpes, are saline, and contain nitrogen in large quantity; one, the Fuente del Estómago is sulphurous, and

the other, the Fuente Purgante, ferruginous. They have all been analyzed with great care by Don José Herrera y Ruiz,* the resident physician; but as it is the Fuente del Higado, which, in the words of the Spanish writer, may be termed the precious jewel of the establishment, and the cause of its wide-spread fame, I subjoin the analysis of that one alone. The quantity of water submitted to analysis was sixty medicinal pounds.

	Grains.
Nitrogen (1066·2 cubic inches) -	321·45
Sulphate of soda - - - - -	31·
Chloride of sodium - - -	10·60
Carbonate of lime - - - -	2·
Chloride of magnesium - - -	2·10
Silica - - - - - -	8·
	375·15

The water is without smell, and possesses a slightly rough, although agreeable, taste. The temperature is 81°. Owing to the large quantity of free nitrogen which it contains—larger than that of any other known spring, excepting Saratoga, in North America—numerous gas bubbles escape with the water, especially in times of tempests. They cover also the sides of the glass into which the water is poured.

The first effects of the waters, when taken, are to augment the secretion of the kidneys, and usually of the skin; languor of an agreeable kind, and indisposition for exertion succeed, and last for a short

* Memoria acerca de las Aguas y Baños Minerales de Panticosa. Madrid. 1845.

time. After this the cough, in pulmonary cases, becomes softer and less frequent, expectoration is facilitated, the appetite is restored, and a notable increase of strength occurs.

The experience of Señor Herrera, during several years at the baths, induces him, further, to speak of the very remarkable curative results that have followed the use of the Higado, in irritations of the various mucous membranes accompanied with hæmorrhage; such as hæmoptysis, hæmatemesis, metrorrhagia and dismenorrhœa. The good effects of this spring in the treatment of pulmonary and laryngeal consumption, before destruction of tissue has commenced, have acquired for it great celebrity in later years. It is used with advantage also in all chronic irritations of the different mucous membranes attended with congestion.

In every case, however, in which it is proposed to employ the water, whether in affections of the lungs, the stomach, the intestines, or the uterus, the absence of organic disease or of breach of structure, must be a necessary condition. Whenever positive debility and torpor of the system exist, the Higado proves hurtful; the Estomago is then prescribed.

A series of twenty-eight cases is appended to Señor Herrera's book, in which are detailed some very satisfactory results of treatment.

The Higado is taken internally, and patients are recommended to respire the nitrogenous exhalations which issue from the spring at its source.

The season commences in the end of June, and ends with September. Delicate persons, however,

in consequence of the great elevation of the baths, should not prolong their stay beyond the end of August.

BAGNERES DE BIGORRE.

This little town, of 8,000 inhabitants, is delightfully situated on the left bank of the Adour, at the mouth of the valley of Campan. The houses have a clean and cheerful appearance, and numerous little brooks of clear water, derived from the river, circulate through the streets. During the season, which extends from the commencement of June to the 15th of October, the town is very much visited, and offers more in the way of in-door amusement, balls, concerts, theatres, reading-rooms, than any other of the Pyrenean watering places. The neighbourhood abounds in walks and drives, many of which are strikingly beautiful.

Being seated at the foot of the mountains and at a moderate elevation (1,850 feet above the sea), Bagnères is less subject to alternations of temperature than places higher up the mountains. The air in some situations is sedative, and to many persons in good health it proves oppressive and relaxing. This condition of the atmosphere exists, in its most decided degree, on the western part of the town, near the Salut road, and is considered by Dr. Farr to depend upon the argillaceous nature of the rock in that situation. In cases for which a soft and humid air is not desirable, the Square, the

houses near the church, the Coustus and the streets leading thence to the river, are considered preferable. Pulmonary and other patients who have derived benefit during the winter from the climate of Pau, find that of Bagnères to be equally well suited for them during the summer.

Bagnères is seated upon a vast subterranean stream of thermal water; so that, wherever the ground, in the plain, is pierced to a certain depth, the hot water springs to the surface or may be raised by means of a pump. In consequence of this unlimited supply, there are numerous private, in addition to the public establishment; which latter unites many of the springs in one large and handsome building.

The waters to which Bagnères owes its reputation are saline. The temperature of the hottest springs (Bains de Cazaux and de Théas) is 124°. They are without smell and possess only a very slight astringent taste. A litre, taken from the most highly mineralized spring, (the Source des Yeux), contains, according to Dr. Ganderac and M. Rosière,

	Grains.
Carbonic Acid	traces
Chloride of Magnesium	0·196
——— Sodium	0·060
Sulphate of Lime	1·876
——— Soda	0 490
——— Magnesia	
Subcarbonate of Lime	0·312
——— Magnesia	0·012
——— Iron	0·044
Resinous fatty substance	0·010

Vegetable extractive - - - - - -	0·012
Silica - - - - - - - - -	0·043
Loss - - - - - - - - - -	0·052
	3·107*

These waters are strongly recommended in disorders of the digestive organs connected with atony, being something similar in composition to those of Baden Baden. "It is to Bagnères," says M. Patissier, "that men of letters and lawyers, worn out by night study, and suffering vague pains and irritations in the abdominal organs, should resort. The springs are no less favourable to persons of hypochondriacal temperament, or to those who are tormented by the idea of suicide; as well as in cases of hysteria and in states of debility and exhaustion, induced by frequent confinements. Soldiers, covered with honourable wounds, almost always experience cure or relief from the sufferings which they entail, by the use of the waters."

* The somewhat startling announcement has been recently made that forty-four at least of the mineral springs in different parts of France contain arsenic. The solid constituents were analyzed by M. Chevallier at the instance of a government commission. Among the number are the waters of Bagnères de Bigorre. The proportion is almost infinitesimal; and it is found to be combined with lime or iron. These two circumstances and the fact that no bad consequences have resulted from the protracted and copious use of such waters, are considered to justify the removal of any reluctance to prescribe them that might exist. It is worthy of remark, that the springs in which arsenic has been detected, such as those of Vichy, are just those that have been well-known during ages for the possession of undoubted curative properties. It is presumed that the mineral is converted into a remedy by decompositions and combinations which nature alone possesses the secret of effecting. Vide "Rapport sur le Service Médical des Etablissements Thermaux pour les Années 1849 et 1850." Paris, 1852.

They may be employed also in atonic dyspepsia, in passive congestions of the liver and spleen, in catarrh of the urinary passages, hæmorrhoids, chronic rheumatism, paralysis, and in those chronic affections of the skin which are connected with hepatic derangement. They prove injurious in scrofulous or scorbutic complaints.

The dose is from one to three or four pints daily, and it is usual to commence with the weaker springs. Their action is exerted chiefly on the digestive organs, and not unfrequently, they produce a slightly purgative effect; which is sometimes promoted by the addition of some neutral salt. They are also extensively employed in baths, and for douches, and fumigations. The water of the Salut spring, which enjoys perhaps the highest repute, is slightly impregnated with sulphur, which is considered to add to its active property.

In addition to the warm saline springs, the neighbourhood of Bagnères possesses the sulphur waters of Labassère and Pinac, and the chalybeate springs of Angoulême and Carrère. These are administered, the former in chest complaints, the latter in chlorosis, anæmia, &c., and sometimes their use is combined with that of the saline baths of Bagnères itself.

Hotel accommodation at Bagnères is very good, and the extent of private lodgings, which are to be had at a moderate expense, is almost unlimited.

CAUTERETS.

Cauterets lies imbedded among wild granite mountains at an elevation of more than 3,000 feet above the sea. The village, nevertheless, has a cheerful and busy air, and contains two or three streets, mostly composed of hotels and lodging-houses, in the construction of which, the grey marble found near at hand has been extensively employed. The excursion places in the neighbourhood, particularly the Pont d'Espagne and the Lac de Gaube, are among the grandest in the Pyrenees.

The purity of the air and the undoubted medicinal virtues of the waters attract great numbers of visitors to Cauterets. Among these are many Spaniards; and a mere glance at the motly hosts, rich and very poor, who crowd during the early morning hours to the different springs, furnishes a proof how large a proportion of them are really invalids.

The springs, which are thirty-two in number, are all sulphurous, but differ in temperature and in their degree of mineralization; so that whilst some are even stronger than those of Barèges, others are among the mildest in the Pyrenees. On this account their therapeutical application is very wide. The temperature of the hottest, that of Maouhourat, is 122°; they have nearly all a disagreeable taste and a powerful sulphurous smell.

A litre of the water of La Raillère, the most frequented, although not the strongest of the springs, contains, according to M. Longchamp:

	Grammes.*
Nitrogen	0·0040
Sulphuret of Sodium	0·0194
Sulphate of Soda	0·0443
Chloride of Sodium	0·0495
Silica	0·0610
Lime	0·0044
Magnesia	0·0004
Soda	0·0033
Baregine, Potash, Ammonia	traces.
	0·1863

The waters of most of the springs are powerful stimulants and require much care in their administration. To persons in health the milder ones, such as the Petit San Sauveur, exercise a slightly tonic influence, increase the appetite, strengthen the digestion, and augment the secretion of urine. The stronger ones induce feverishness, headaches, restless nights, &c., although their action is very different in the case of persons who are debilitated by disease.

The late M. Orfila, who visited Cauterets on many occasions, for the benefit of his health, studied the effects of the different springs upon diseases, and arrived at the following conclusions as to their therapeutic properties. La Raillère is useful in bronchial catarrh, in the first stage of phthisis and the accompanying hæmoptysis, in neuralgic affections of the chest, and in gastralgia. The Pause in chronic rheumatism, cutaneous diseases, especially those of a pustular character, in humid asthma, and in

* The gramme is equivalent to 15·4340 Troy grains.

various lymphatic affections. The springs César and des Espagnols possess the qualities of the two preceding in a more powerful degree; and from their energetic action should be employed only by persons of torpid habit. Unfortunately they issue from the ground at an elevation much above the village, so that in conveying them in pipes to the establishment their original virtues are considerably modified, although to a much less degree now than until recently was the case.

The Bois and the Pré are employed in rheumatic gout and in various chronic skin diseases; the Petit San Sauveur in nervous affections, in irritations of the uterus, and in congestion of its cervix, accompanied with sensibility. In these latter cases the stronger waters of La Raillère are resorted to, after the symptoms of irritation have been removed.

Numerous cures in cases of chronic derangement of the digestive organs, unattended with much irritation, are effected by the Maouhourat, the morning walk to which, along the mountain side, contributes its share in the sanative influence.

The waters are not only drunk, when they are often mingled with milk and other diluents, but used as general and local baths, as lotions, and as topical applications in uterine complaints.

The following statistical details, the result of ten years' observation by M. Buron, the Physician Inspector, throw further light upon the therapeutic properties of the waters of Cauterets :—

Of 6,328 patients with various complaints, 2,030 were cured, 2,993 relieved, 1,305 treated without success or rendered worse.

Bronchial Catarrh. Of 1,388 cases treated, 624 were cured, 398 relieved, and 366 experienced no relief. In those that were cured, the disease on an average had lasted from six to eighteen months; in those that were relieved, from two to six years; those that resisted the treatment were of a still older date.

Dry Asthma. Of 242 cases none were cured, 165 were relieved, and 77 treated without success.

Humid Asthma. Of 288 cases none were cured, 163 were relieved, and 125 treated without success.

Chronic Laryngitis and Pharyngitis. Of 532 cases, 177 were cured, 320 relieved, and 35 treated unsuccessfully.

Laryngeal Phthisis. 70 cases; none cured, 15 relieved.

Pulmonary Phthisis, 1st Stage. 240 cases: none cured, 68 relieved.

Of 765 cases of stomach complaints, 408 were cured; of 343 strumous affections, 109 were cured; and of 939 cases of chronic rheumatism, 315 were cured, and 553 relieved.

The absence of all inflammatory symptoms is indispensable to the beneficial use of the waters of Cauterets.

The season includes the months of July, August, and September; but it is chiefly during the first two that the baths are much frequented.

ST. SAUVEUR.

This village is beautifully situated on a rocky

terrace nearly 250 feet high, which overhangs the left bank of the Gave. It is placed just within the mouth of the valley or defile of Gavarnie, famous for its extremely picturesque and romantic features, and consists of a row of white inns, capable of accommodating about 300 visitors, in the midst of which is the handsome bath establishment.

St. Sauveur is distant one mile from Luz and four from Barèges. Its elevation above the sea is 2,300 feet. The air is very salubrious.

The waters are very similar in smell, taste, and chemical composition, to those of Barèges, excepting that they are milder and less highly mineralized. On this account they are preferred for women, children, and persons of delicate and irritable constitution ; and of these the visitors to St. Sauveur mainly consist.

Cases of hysteria in its neuralgic form, of nervous headaches, despondency, spasmodic affections, and catamenial irregularities connected with them, derive benefit from the use of these waters. They are also strongly recommended for nervous ladies after the fatigue and excitement of a season in town.

M. Fabas, the Inspector of the Baths, states that the application of the water topically, as well as in the form of douche, rarely fails to effect a cure in cases of leucorrhœa, which is one of the affections that most prevail among the visitors here. In eighteen such cases, in the atonic form, twelve radical cures were effected. In seven cases of vesical catarrh there were two cured and four relieved.

The bath, and the ascending and descending

douche, are the chief modes of employment of the water. It is occasionally prescribed also in the form of drink, when it is usually taken in small quantity and mixed with some diluent, on account of its extremely unctuous quality.

The season lasts from May to October, and it is not unusual for persons to undergo a course of these waters preparatory to the use of the stronger ones of Barèges.

BAREGES.

Barèges lies at an elevation exceeding 4,000 feet above the sea, and is buried in snow the greater part of the year. The situation, among naked mountains which roll down their avalanches upon the village during winter and spring, is desolate and gloomy in the extreme. The accommodation for visitors, moreover, is of an inferior kind.

Notwithstanding these disadvantages, the fame of its waters is European ; and the cures which they have unquestionably effected, have procured for Barèges the first place among sulphurous springs. The relief or cure of inveterate diseases would be cheaply bought, at the price of a temporary submission to such few privations and discomforts as exist at Barèges.*

It may be mentioned, in passing, that so great is the influx of real invalids, that rooms should be

* The sanative properties of the springs were almost unknown until they were manifested in the case of the young Duc de Maine, who was taken to Barèges by Madame de Maintenon.

secured beforehand; and no time should be lost after arrival to consult the medical inspector, who assigns to each patient the turn in which he may undergo the medicinal application of the waters. The season lasts from the 1st of June to the 15th of September. Owing to frequent changes of temperature warm clothing is necessary.

The springs of Barèges are divided into the hot, the temperate, and the tepid. The highest temperature, 112°, is that of the water in the pipe of the Tambour. Few of them are colder than 82°.

The waters are clear, have a strong smell of rotten eggs, and a nauseous, oily taste. Bubbles of pure nitrogen escape from the source; and baregine or glairine forms a pellicle upon the surface, or becomes deposited in considerable quantity upon the walls with which the water comes into contact.

In a litre of the water, taken from the Buvette, the following constituents were found by M. Longchamp:—

	Grammes.
Nitrogen	0·0040
Sulphuret of Sodium	0·0421
Sulphate of Soda	0·0500
Chloride of Sodium	0·0400
Silica	0·0678
Lime	0·0029
Magnesia	0·0003
Soda	0·0051
Potash, Ammonia, Baregine	traces.
	0·2082

In regard to medical properties, the waters of Barèges are powerful stimulants, although considerable difference in this respect exists among the several springs. In prescribing them, therefore, the absence of all active symptoms is essential; the disease must be in a really chronic form. For the same reason, they are better adapted for persons in whom the lymphatic rather than the sanguine temperament predominates. Even in such persons, during the process of cure, especially when the douche is used, they produce more or less of febrile disturbance, exciting the circulation, augmenting the secretions, and, for a time, seeming to aggravate the affection for which they are employed.

The large hospital established by the French Government at Barèges, for the treatment of sick soldiers, has added to the other opportunities for clinical investigation of the properties of the waters, and several valuable reports have been published on the subject.

The cases in which the waters of Barèges are most useful are :—

I. Various forms of rheumatic and its kindred affections. II. Chronic diseases of the skin. III. Fistulous wounds depending on carious bone, the presence of foreign bodies, notably those arising from gun-shots; imperfectly formed cicatrices; atonic and varicose ulcers, &c. In forming an opinion, from the published reports, of the medicinal virtues of the waters of Barèges, as of other places, it should be borne in mind that the patients who go there are the subjects, for the most part, of obstinate affec-

tions, that have long resisted ordinary modes of treatment. Further, many of the cases reported as relieved merely, experience a veritable cure sooner or later, after return to their own homes.

Rheumatism, &c. Of 300 carefully observed cases of chronic rheumatism, 126 were completely cured, and 136 greatly relieved; 35 only derived no benefit, and 3 were aggravated. Among 65 cases of lumbago there were 17 cured, 40 considerably relieved, and 6 were treated without success; and of 12 cases of sciatica, 5 left the baths in a state of apparent cure, and 7 were more or less relieved.

In the articular form of rheumatism M. Gasc considers the waters to be less applicable, unless the period of activity has long passed away. He has sometimes known an old attack to be re-produced by an imprudent resort to them. Similar remarks will apply to the case of chronic gout.

In the treatment of muscular retractions from rheumatism, good results have been obtained. Of 31 such cases, 9 were cured, 17 relieved, and 5 experienced no improvement. In a case in which the fingers were closed and the nails implanted in the palm of the hand, the result of inflammation among the flexor muscles after venesection, marked improvement but not cure was effected.

Of false anchylosis there were many cases of cure, and nearly all experienced some relief. In true anchylosis, as might be expected, no advantage was obtained.

In white swellings of the joints, M. Pagès speaks highly of the curative effects of the waters, so long

as the organic changes are not extreme and the constitution is not undermined, and suffering from hectic. The experience of MM. Bordeu and Gasc in these affections is not, however, favourable to the same extent as that of M. Pagès.

In regard to diseases of the skin, the cures which have been effected, were chiefly in old and chronic cases, to the treatment of which the waters are most applicable. M. Gasc found that of one hundred and eleven soldiers who came to Barèges in 1829 affected with these complaints, 51 were subjects of simple herpetic eruptions, of whom 31 were cured. Of 20 cases of pustular eruptions 10 were cured. Of 28 of squamous affections 21 were cured.

The result of treatment in 260 cases of cutaneous diseases of different kinds, treated at Barèges during five years, showed that 136 were cured, 85 decidedly relieved.

The employment of the ordinary remedies in these affections, such as arsenical preparations, has sometimes been made to go hand-in-hand with that of the sulphur springs.

The reports of the French surgeons furnish many instances of the curative effects of the waters in old fistulous sinuses, following gun-shot wounds. Some of our own officers also, who have repaired to Barèges under similar circumstances, have been cured. Moreover, the waters will frequently procure the expulsion of foreign bodies imbedded in the flesh. I have seen, says Bordeu, many leaden bullets and fragments of clothing, which have been thus expelled at Barèges, from our wounded soldiers;

monuments alike of the valour of the men and the virtues of the waters. In such cases, cicatrices long, but imperfectly healed, open afresh, the foreign substance is discharged, and permanent cure effected.

Several cases are recorded by the same eminent writer of persons affected with caries of the femur, the vertebræ, the ribs, clavicles, scapula, and the humerus, who were cured at Barèges. The waters have also been viewed in the light almost of specifics in the treatment of inveterate ulcers, partaking of a more or less indolent character. The first effect is usually to increase the size of the wounds, after which they heal rapidly.

In pulmonary affections, although some of the springs are much less energetic than others, Barèges is not to be recommended in comparison with Eaux Bonnes and Cauterets.

In palsy from lead, and some other forms of atonic paralysis, in which there is no reason to apprehend congestion or inflammation of the brain or spine, in chronic ophthalmia, and in certain cases of dyspepsia, the waters of Barèges are prescribed with advantage. In the selection, however, of all cases for trial of these waters, it may be repeated, that the affection must be purely chronic; there must be no disease of the heart or great vessels, and the patient must not be too young, nor of a nervous or irritable temperament.

The waters are taken internally, and used in the form of baths, douche, lotions, injections, and of lavements in some chronic affections of the rectum.

It is usual to commence with the milder springs; and often a course of some less powerful waters is recommended before a trial of those of Barèges.

BAGNERES DE LUCHON.

The little town of Luchon, two leagues from the Spanish frontier, stands on the edge of a cheerful and fertile plain, surrounded by mountains, at an elevation of 2,002 feet above the sea. The excursions in the neighbourhood are considered to be the most beautiful and varied in the Pyrenees. The Lac d'Oo, and the valley of the Pique, leading to the Port de Venasque,—a fine combination of pastoral hollows, mountain peaks, wooded slopes, covered with beech and silver fir, picturesquely relieved by occasional yew trees, and the winding river,—cannot disappoint.

The accommodation for visitors is pretty good, both at the hotels and the lodging-houses. A café, a reading-room, and occasional balls, offer other attractions. There are several tree-bordered promenades, which are well shaded in the summer, without excluding the mountain views.

The season extends from the end of May to October.

The springs, of which there are thirty-five, occur at the junction of the granite and the slate; and the waters, having but a short distance to run, and being protected from exposure to the air before they reach the reservoirs, preserve their heat, and therapeutic properties unimpaired. The temperature of

the hottest is 152°; of the coldest 62°. The establishment has been recently erected, and is large, commodious, and well arranged.

In regard to the quantity of sulphuret of sodium which they contain, these waters must be placed among the first of sulphurous springs. On the least exposure to the atmosphere they become white and opaque; so that the patient bathes, so to speak, in milk of sulphur. M. Filhol, a distinguished chemist of Thoulouse, has lately analyzed ten of the springs. I subjoin a list of the contents of the spring Bayen, which is the most rich in sulphuret of sodium.

	Grammes.
Sulphuret of Sodium	0·0777
——— Iron	traces
——— Manganese	ditto
——— Copper	ditto
Chloride of Sodium	0.0829
Iodide of Sodium	traces
Sulphate of Potash	ditto
——— Soda	ditto
——— Lime	ditto
Silicate of Lime	0·0220
——— Magnesia	traces
——— Alum	ditto
Sulphite of Soda	ditto
Phosphate of Soda	ditto
Hydrosulphuric Acid	ditto
Silica	0·0444
	0·2270

The medicinal properties of the waters of Luchon, which are increasing in favour every year, possess the stimulating character which belongs to sul-

phurous springs in general; and the variety which they offer in the degree of mineralization and in the temperature, enables them to fulfil several therapeutic indications. In every case, the absence of inflammation is a necessary condition for their employment.

The review of the large experience of M. Campardon and M. Barrié, given by Patissier, affords a summary of the affections in which these waters are applicable. They have been found efficacious in chronic cutaneous diseases, in stiffness of the tendons and ligaments after dislocations and fractures, tumefaction of the joints in persons of lymphatic temperament, false anchylosis; ulcers, whether simply depending on some deep-seated cause, or of a strumous nature; in chronic bronchitis, accompanied with much secretion; the several forms of rheumatism and neuralgia, in old paralysis, and in those affections of the eyes and the eyelids, which are either of a strumous origin or have some connexion with cutaneous complaints. They have been employed with success also in cases of difficult digestion accompanied with flatulency, in hypochondriasis, and in cases of hysteria, occurring in persons of torpid constitution.

Besides being drunk, the waters of Luchon are used as general, partial, and vapour baths, and in the form of collyria, injections, and lotions.

It may be added, that the cholera, so fatal in many parts of France, did not appear at Luchon, nor in the department (Haute Garonne) in which it is situate.

The only others of the numerous bath establishments in the Pyrenees which I propose to notice, are those of Ussat and of Ax, which lie in the valley of the Arriège, and are usually approached from Thoulouse, and those of Vernet, which are more conveniently reached from Perpignan. The dryness of the air and the transparency and blueness of the sky at these baths, bespeak an approach to the Mediterranean end of the chain.

USSAT.

These baths are distant nearly seventy miles from Thoulouse. They are situate within thirty-five yards of the right bank of the Arriège, which is here a broad, deep, and rapid river. The valley at this spot nowhere exceeds a quarter of a mile in breadth. It consists of an alluvial flat, chiefly of limestone detritus, covered with trees and meadows, through the centre of which the river meanders. On either side are precipitous limestone cliffs, rising to an average height of 1,000 feet, upon which a few stunted box shrubs, as well as lavender and other aromatic herbs, grow. The profusion of timber and vegetation which characterises the limestone valleys of the Eaux Bonnes and Eaux Chaudes, renders the general deficiency of such clothing the more observable here.

The mountain views from the baths are charming; and there is a shady promenade upon level ground in a species of shrubbery by the river side. Excursions are made in various directions, and the natural facilities for this purpose are being more and more

turned to account. At the hotels and lodging-houses there is accommodation for upwards of 700 visitors; the rooms are plainly but comfortably furnished, and it is the almost universal practice to dine at the table d'hôte. Excellent trout are found in the river.

The waters of Ussat are highly valued at Thoulouse, and their fame increases every year. Thus in 1831 there were only 693 bathers; in 1841 the number had progressively increased to 1,617. The establishment, at the time of my visit, consisted of one long range of buildings divided into forty commodious apartments, each provided with a marble bath, and suitable conveniences. Into these, by means of a good arrangement, the water flows directly from a gallery bored in the limestone rock. The building is now, I believe, still larger.

The waters belong to the acidulous thermal class. They are unctuous to the feel, and without smell or taste. The highest temperature in the baths is stated to be 100°; but I did not find it higher in the galleries than 95°. A litre of the water contained on analysis,

	Grammes.
Carbonic Acid - - -	quantity undetermined.
Chloride of Magnesium - - -	0·035
Sulphate of Magnesia - - -	0·282
——— Lime - - -	0·313
Carbonate of Lime - - -	0·274
——— Magnesia - - -	0·010
Loss - - - - - -	0·005
	0·919

100 parts of the sediment deposited contained :—

	Parts.
Silica	28
Alum	40
Carbonate of Lime	20
Sulphate of Lime	10
Carbonate of Iron	2
	100

A more recent analysis is very desirable.

The medicinal effects of the waters are exerted chiefly upon the nervous system, which they calm and soothe in a decided manner. They are hence employed, as I was informed by M. Vergé, the resident physician, in the nervous diseases of both sexes characterised by irritation. In hypochondriacal affections, hysteria, chorea, paralysis agitans, facial and rheumatic neuralgia, cramp, spasm, vague unsettled pains, and gastralgia, they have proved to be a most efficacious remedy. Their sedative action has particularly recommended them in cases, in which the nervous system has been excited by protracted mental application, anxiety, or night watching.

They are considered to exert a special action also on the uterus; hence a majority of the patients at the baths are females. In cases of dysmenorrhœa and of menorrhagia, attended with exalted sensibility of the uterus, as well as in other morbid states of that organ, they have been used with great success.

The waters are taken internally, but chiefly used for baths. A great advantage they possess in the

latter form over most other mineral waters, is the fact of the water in the bath being constantly renewed, so that the same temperature is preserved throughout the operation of bathing. The first few days of the use of the baths, as usually happens with all such remedies, give but little promise of the good effects which generally follow.

The season extends from June to October.

AX.

A good, but hilly road, about ten miles long, following the bank of the Arriège, leads from Ussat to Ax. As we proceed, the mountains become more clothed with vegetation, vast forests of beech and fir climbing their sides and crowning their summits.

Ax is an old fashioned town, 2,200 feet above the sea, in a pleasant valley surrounded by granite mountains. It is situate on the Arriège at its junction with a smaller stream, the rapid descent of both of which over the rocks, keeps up a perpetual murmur, heard in most parts of the town.

The accommodation at the hotels is indifferent, notwithstanding the large number of visitors who are attracted by the medicinal virtues of the sulphur springs.

The supply of water is almost inexhaustible; numerous sources, to the number of at least eighty, gushing from the ground in most parts of the town, which has been described as seated upon a vast cauldron of hot water. The temperature varies from very near the boiling point, downwards. During the winter, the warmth and profusion of the water

so thorougly heat the ground that snow melts immediately after falling, although it lies for months together just outside of the town. People go to the pools to warm themselves, and there they sit pursuing various occupations. The water is also introduced into the houses by means of pipes, and is extensively used in culinary and other domestic purposes.

It is, perhaps, hardly necessary to give the analysis, the results of which correspond closely with others already detailed. Some of the sources are highly, others but feebly, mineralized; a circumstance which, along with the variation of temperature, renders them applicable to the treatment of a wide range of morbid states, in which sulphur springs are applicable. By some French physicians they are considered to be as beneficial as those of Barèges; whilst they possess the advantage over those famous baths of an unlimited supply of water.

The springs of Ax, as their name testifies, were well known to the Romans; and a large bath, formed in the year 1200, still exists, and bears its ancient name of the "Leper's Pool."

The season lasts from May to October.

VERNET LES BAINS.

The sulphur baths of Vernet, distant from Perpignan thirty-four miles, nestle in a deep and picturesque valley at the very base of the lofty mountain Canigou. They are sheltered from cold winds by mountain screens, which do not, however, exclude the influence of the sun.

The dwelling-houses, consisting chiefly of two

large hotels, have been well and comfortably fitted up by the proprietors, two retired French officers, and are intended chiefly for persons in easy circumstances. In one of these hotels is the bath establishment, and the warm water being conveyed in pipes through every part of the building, maintains in the rooms, night and day, during the colder months, an equable and mild temperature; whilst at the same time, the air is impregnated with gaseous exhalations from the waters. The staircases, corridors, dining-rooms, and the passages leading from the sleeping rooms to the baths, are all maintained constantly at the same equable temperature, from 59° to 64°. In this consists the peculiar feature of Vernet, that it is well adapted for a winter as well as a summer residence, in all cases in which a protracted employment of sulphur waters may be desirable. On these grounds it offers great advantages in some forms of pulmonary complaints. At many others of the Pyrenean springs, which are situated high among mountains, the season terminates early, and the invalid is too often obliged to discontinue the use of the waters at a time when they were on the point of affording him relief.

The waters of Vernet, of which there are several springs, are used as a beverage and in the form of baths. There is also a vaporarium of which much use is made, and a "salle d'aspiration" where the vapours may be respired for several hours daily. They are employed in all those cases for which sulphurous waters are recommended, and are particularly applicable to chronic affections of the chest,

accompanied by copious secretion, and to non-inflammatory vesical catarrh.

Ibrahim Pasha passed the winter of 1845 at this establishment, and, as I was informed by the intelligent resident physician, left it completely cured of the troublesome bronchial affection for which he had gone there. So great was his confidence in the virtues of the waters that several Egyptian public functionaries, afflicted in a similar way, have been sent to undergo treatment at the baths.

The southern latitude, and the shelter of the lofty mountains, give the opportunity of a sunny walk towards noon, on most days in the winter. The neighbourhood abounds with interesting excursion ground.

VICHY.

The celebrated and fashionable alkaline baths of Vichy, in central France, are agreeably situated in the midst of a large open valley, surrounded by gentle hills which are covered with vineyards and fruit trees. They are distant seventy-eight miles to the south of Nevers, from which town to the English Channel the journey may be made by railway. The air is temperate, and remarkably pure and healthy.

The old town, an assemblage of narrow streets, lies on the right bank of the Allier, and is separated by a fine shady promenade of plane trees from the quarter of the baths, which contains many handsome lodging and boarding houses.

The banks of the Sichon afford shaded walks and rides, and many pleasant excursions may be made in the neighbourhood.

The springs of Vichy are seven in number, to which may be added those of Cusset and Hauterive in the vicinity, and that of Brosson, which was obtained recently by an artesian boring. They closely resemble each other in composition, and contain in a litre* about half a litre of carbonic acid and from six to seven grammes of mineral substances, of which five are bicarbonate of soda. In addition to many others, arsenic, strontian and alkaline bromides and iodides, have been recently found among their constituents.

The different springs have been thus classified :—

Warm Alkaline Springs	- - -	Grande Grille
„ „	- -	Hôpital
Cold „ „	- - -	Célestins
Chalybeate „ „	- -	Puits Lardy
„ „	- - -	Sources d'Hauterive
Sulphurous „ „	- -	Sources des Acacias
„ „	- - -	Puits carré
„ „	- -	Puits Chomel
Chalybeate and Sulphurous Alkaline Spring		Source des Dames (Cusset.)

These springs have all been examined chemically. I subjoin the analysis of the spring Lardy, by M. Lefort, which agrees pretty closely as to constituents, with that made by M. O. Henry, and will afford a clue to the composition of the other springs. 1,000

* The capacity of the litre is explained at p. 286; the value of the gramme at p. 288.

grammes of the water gave the following rather complex results :—

	Litre.
Nitrogen	0·120
Oxygen	0·025
Carbonic acid	0·519

	Grammes.
Anhydrous bicarbonates of Soda	4·461
„ Potash	traces
„ Lime	0·610
„ Magnesia	0·084
„ Strontian	traces
„ Lithia	„
„ Iron	0·031
„ Manganese	traces
Anhydrous Sulphate of Soda	0·173
„ Potash	0·078
Chloride of Sodium	0·667
„ Potassium	traces
Alcaline Iodides	„
„ Bromides	„
Silicate of Soda	0·092
„ Alumina	0·017
Arsenite of Lime	traces
Crenate of Iron	„
Organic matter containing sulphur	„
	6·213

From some of the sources, pure carbonic acid rises to the surface in such abundance that the water appears to be boiling. A slight alkaline and pungent taste, not unlike that of soda water, is observed. The highest temperature, according to M. Longchamp, is 112°, which considerably exceeds that of most of the springs.

The waters of Vichy are particularly remarkable for their special action upon the function of digestion, and upon the secretions of the liver and kidneys.

M. Durand-Fardel* considers that they exert an influence also on the skin and the blood, especially certain of the sources, which contain a notable proportion of sulphur and iron. The almost invariable effect of moderate doses is to impart an alkaline reaction to the urine, and in the case of some persons, it is persistent throughout the course of their treatment at Vichy. This alkaline condition shows itself also in the perspiration. The waters excite the circulation; but numerous clinical observations afford reasons to believe, that when judiciously prescribed, they do not produce those liquefying effects upon the blood, which are considered to result from the use of alkalies in their uncombined state.

Many experiments have been made by different observers, to demonstrate the solvent action of these waters upon urinary calculi, composed either of lithic acid or the ammoniaco-magnesian phosphate. Such calculi, repeatedly submitted to their influence, out of the body, have always been dissolved. And what is more to the purpose, cases have occurred in the extensive experience of M. Petit, in which lithic acid calculus, of moderate size, has been dissolved within the bladder. Lithic acid gravel usually disappears promptly by the use of the water. It is

* See some able observations by this gentleman on the waters in question, "Des Eaux de Vichy." Paris, 1851.

in such cases that the spring of the Célestins is employed.

Great numbers of persons affected with gout repair to Vichy; and it is certain, says the author whom I have first quoted, that under the influence of treatment by the waters, many such patients find the attacks of their disease diminish in intensity and frequency, the intervals between them being sometimes so much prolonged, as to afford grounds for the belief that a genuine cure has been effected. Other physicians speak in terms still more favourable. The relief experienced does not seem to be owing to the mere neutralizing action of the waters upon the uric acid, generated in this disease, for the good effects are often permanent, and show themselves in an improved condition of the general health. The iron and other constituents in the waters, doubtless, contribute to the therapeutic action. Nor must the influence of the dry and exhilarating atmosphere, the complete change of scene and climate, the action upon the skin of the warm baths, and the great attention which is paid to diet at Vichy, be lost sight of.

The recommendation of the waters is sometimes extended to the treatment of almost all the forms of gout, regardless even of the presence of febrile symptoms; but there can be little doubt, that the most prudent course will be, to prescribe this powerful remedy in the chronic form only, and even then during the intervals only of the paroxysms. The object in such practice will be to fortify the patient against future attacks, by giving power to the debi-

litated stomach, and by strengthening and modifying the condition of the system.

In inveterate cases of indigestion in its atonic form, the beneficial effects of a residence at Vichy, and the use of its waters, are matters not only of common belief, but they rest upon the evidence of clinical demonstration. Treatment of this kind implies the combination of several influences acting together upon the general health, and secondarily upon the stomach; not merely palliating individual symptoms, but removing the cause on which they depend.

M. Durand-Fardel carefully observed the effects of the waters in eighty cases of strongly marked indigestion which came under his care at Vichy. The affection in nearly all had existed from one to more than six years. The symptoms were slow, difficult, painful digestion—fullness and heat after meals—diminished appetite—some epigastric pain and tenderness on pressure—nausea or vomiting—heartburn—acid or fetid eructations—impaired nutrition—and the whole depending, for the most part, on depressing causes.

Fifty-one of the cases were observed during one season only, and the results of treatment were as follows:—Decided relief in 36, slight relief in 4, no relief in 11. It will sometimes be found, that the good effects of the waters do not appear until after the termination of the course; hence, several of the eleven who experienced no improvement at the baths doubtless found it at their own homes.

Of the remaining 29 cases, in which, the patients

having returned to Vichy, the history was observed during more than one season, there was an improvement in all; general in 22, and partial in 7.

In 34 cases the exact period at which improvement commenced was noted. In 9 cases it took place before the fifth day of treatment, in 21 before the fifteenth, and in 4 before the nineteenth.

Return and augmentation of appetite and increase of strength, are the first good effects observed; after which, the vomiting, epigastric pain, aqueous regurgitation, pyrosis, heartburn, flatulence, and constipation disappear.

In regard to habitual constipation, the employment of the ascending douche, in combination with the baths and the use of the water as a beverage, is found to be a valuable remedy. By its topical stimulus it excites the torpid colon and rectum to action.

The spring de l'Hôpital agrees best with the cases under consideration; or sometimes, when the debility of stomach is great, the spring Lardy, which contains more iron, is preferable. The "Grande Grille," which is much used for bottling, is in general too stimulating in such cases.

Other morbid states, in the treatment of which the waters of Vichy are employed with success, are chronic rheumatism, atony, and congestive states of the lower portions of the digestive canal, nervous colic, and simple congestion of the liver and spleen, more especially when following ague. They are applicable, indeed, to the general anæmic condition

resulting from malarious poisoning. It is in these latter cases that recourse is had to the Grand Grille.

In all pulmonary complaints, excepting such as are symptomatic of disordered stomach, the waters are hurtful; nor must they be employed by persons of highly nervous temperament.

The waters are drunk, used as baths and douches, and their solid constituents are made into lozenges. The bath arrangements are very inferior to those at several minor establishments in France.

The season commences the 15th of May, and terminates the 15th of September.

The recently published report of the French commission of mineral waters, which contains the result of the experience of several of the physicians of Vichy, would justify a much stronger recommendation than I have given, of the virtues of the springs of that town.

The following account has been given of the daily routine at Vichy:—

"As early as six the crowd assembles to drink the waters, which takes up an hour or two; ten is the hour of breakfast; to this succeeds, after an interval, the baths, for those who are recommended to bathe, each individual having his hour and turn marked upon a card. The table d'hôte dinner takes place at five; and in the evening the company assemble in the drawing-room of the hotel, where cards or music afford resources for passing the evening. Precedence is determined by the order of arrival, those who have been longest resident occupying

the upper seats at table, &c. There are occasional balls at the rooms, but, as the physicians are masters of the ceremonies, they begin at half-past eight, and and usually end before eleven; raking is not allowed." *

AIX LES BAINS.

In adding another to the sulphur springs already described, I am desirous, at the same time, to draw attention to the merits of Aix les Bains, in Savoy, as a summer residence for those persons who may have spent the winter in Italy. The summers are exceedingly temperate; more so even than those of the romantically situate baths of Courmayeur, at the foot of Mont Blanc, which are by far the coolest of the habitable places of resort that I have met with on the Italian side of the Alps. During the summer of 1851, which I spent at Aix, the thermometer in the shade seldom rose higher in-doors than 73°, I never saw it above 75°. The mornings and evenings were always cool. The chief drawback was rain, which sometimes lasted for two days incessantly. When the rain was over, however, the air and the walks, as in most limestone countries, soon became dry. As in all mountain situations, there were occasional cold and windy days in the hottest months; and towards the end of August the fall of temperature became very sudden. The air is healthy, bracing, and free from irritating properties.

* Murray's Hand-book for France.

Aix les Bains is distant forty leagues from Turin, twelve from Geneva, eighteen from Lyons. The little town is situate on a gentle eminence in the midst of a cheerful valley, several miles broad, and diversified with numerous little hills. The scenery is singularly beautiful and varied, rock, wood, and water abound; and the walks, rides, and drives, especially the former, are well nigh inexhaustible. The Lake of Bouget, a remarkably fine sheet of water, commanding on all sides striking mountain views, is distant about a mile from the town. It furnishes an endless resource for boating, fishing, and excursions to many interesting spots on its margins.

Another attraction for the numerous and wealthy visitors whom the season always brings to Aix, is the Cercle, a handsome building, scarcely inferior to some of the best of those at the German baths. Daily music, balls, a café and restaurant, a reading-room well stored with journals, and a military band, which plays every evening in the gardens of the institution, are some of the amusements. One of its principal means of attraction, however, seems to be the gambling-table, in which the worst feature of the German spas has been imitated. The lavish display of gold and the excited mien of many of the players, who are all foreigners, afford a violent contrast to the poverty and simple life of most of the Savoyards.

The hotels and some of the boarding-houses afford excellent accommodation.

There are two principal springs at Aix, which

issue in great abundance from a calcareous rock, and are both included in one large and commodious royal establishment. The water is limpid, and possesses the usual smell and taste of hydrosulphuric acid. Deposits of glairine form along the channels by which it is conveyed. The temperature, at the point of issue from the rock, is 120°; in the cabinet de l'Enfer it is 110°; whilst the air in the new vaporarium attains 91°.

The springs have all been analyzed; and in the principal one, that termed the Soufre, iodine has been found. The degree of mineralization is small, when compared with many other springs; but there is a large supply of hydrosulphuric acid, which, together with the temperature, may serve to explain the therapeutic properties of the water. Moreover, the resources of the establishment, in reference to the varied and numerous methods of applying the water to the treatment of particular cases, are very great; and they are administered with great skill and care. Friction and manipulation is often combined with the simultaneous use of the douche, the stream of water being directed, by means of a moveable tube of tin, upon that part of the body on which the rubbers are required to exercise their operations. Other remedies are combined with the use of the waters in the treatment of disease, to an extent, which I have not seen practised elsewhere.

Muscular rheumatism is treated with success, here, as at other sulphur springs; and there is a form of articular rheumatism, affecting persons of lymphatic constitution, characterized by a spongy,

white, sometimes crepitating swelling of the joint, rendering the limb more or less useless, although unattended with much pain, in the treatment of which M. Despine has been very fortunate. The means which he employs in such cases are shower douches; ointments of iodine, and alkaline liniments, applied under the influence of the vapour bath, which renders their absorption more certain; and a judicious pressure exerted by flannel bandages. In contractions of the tendons, suitable mechanical apparatus is made to assist the action of the douche.

Chronic affections of the skin form another class much benefited by these waters, especially such as are of a pustular character.

In various injuries resulting from dislocations, fractures, contusions, &c., and persisting after the employment of the ordinary means of treatment, as well as in white swellings, necrosis, and caries, excellent results have been obtained. M. Despine* details some of these cases, and models of wax, in the pathological museum of the establishment, representing the condition of parts before the employment of the waters, bear corroborative testimony to their efficacy.

In sciatica, the treatment consists of a continuous irrigation of the affected part, and the use of warm and vapour baths. Of 50 patients so treated, 34 quitted Aix in a state of apparent cure. In several forms of chronic paralysis in which there is a com-

* Manuel Topographique et Médical aux Eaux d'Aix. Annecy, 1850.

plete absence of febrile symptoms, and in nervous diseases, more especially those depending on irritation, the published reports speak very favourably of the waters. In such cases, the douches have been employed in the form of shower baths.

The waters prove hurtful to persons of plethoric habit, and to those who have fallen into a cachectic state from long suffering. The absence of all feverishness, and of organic affections of the heart or lungs, is essential. Mud baths have for many years been in use at Aix.

THE END.

NOTE

ON THE

AUTHORITIES FROM WHICH THE METEOROLOGICAL DATA HAVE BEEN DERIVED.

MADRID.—Don José M. Palomares, Professor of Astronomy in the Observatory of Madrid. Observations made during eight years, four times a day, at 9, A.M.; 12, 4, P.M.; and 10, P.M.

LISBON.—Snr. M. Franzini, eighteen years' observation. *Vide* Ensaio sobre a Topographia Medica de Lisboa, por Francisco Ignacio dos Santos Cruz. Lisboa 1843.

CADIZ.—Five years' daily observations, three times a day, embracing the coldest and hottest periods, published in the daily journal, El Comercio, from 1844 to 48. Calculations made by the author.

MALAGA.—Three years' observation from 1845 to

47, made three times a day, at 6, A.M.; 12 and 5, P.M.; published in the Avisador Malagueño, calculated by the author.

ALICANTE.—Mr. Satchell; three years' observation in-doors; at 8, A.M.; and 2, P.M. Communicated to the author.

VALENCIA.—Five years' observation, from 1844 to 1848; at 7, A.M.; 12, and 5, P.M., daily. Published daily in the "Diario Mercantil," of Valencia, and calculated by the author.

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AS A REMEDY IN VARIOUS CHRONIC AFFECTIONS.

BY

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